TRAC-M-TR-18-012
April 2016

Global Assessment Tool (GAT) Trend Analysis

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This study cost the Department of Defense approximately $271,000 expended by TRAC in Fiscal Years 15-18.
Prepared on 20180405
TRAC Project Code # 060311

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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.			
1. AGENCY USE ONLY ***(Leave blank)***	**2. REPORT DATE** 25 DEC 2016	**3. REPORT TYPE AND DATES COVERED** Technical Report, October 2015 to Dec 2016	
4. TITLE AND SUBTITLE GAT 2.0 Trend Analysis			**5. PROJECT NUMBERS** TRAC Project Code 060311
6. AUTHOR(S) MAJ Shingleton, Dr. Buttrey, LTC Orndorff, MAJ Wright			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) US Army TRADOC Analysis Center - Monterey 700 Dyer Road Monterey CA, 93943-0692			**8. PERFORMING ORGANIZATION REPORT NUMBER** TRAC-M-TR-18-012
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) Army Analytics Group (AAG) Army Resilience Directorate (ARD)			**10. SPONSORING/MONITORING AGENCY REPORT NUMBER** TRAC-M-TR-18-012
11. SUPPLEMENTARY NOTES Findings of this report are not to be construed as an official Department of the Army (DA) position unless so designated by other authorized documents.			
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			**12b. DISTRIBUTION CODE**
13. ABSTRACT (maximum 200 words) The Training and Doctrine Command Analysis Center (TRAC) has been conducting research on the Global Assessment Tool (GAT), an annually required psychometric instrument to test the resilience levels of the participants for the since 2011. However, the instrument was never properly tested or validated or, if it was, there is no record of the testing. This year, at the request of Army Resiliency Directorate (ARD), the research into the GAT concentrated on the validity and the reliability of the GAT, as a whole. This effort also included input from other researchers, whose efforts assisted in the validation of the GAT to include work on personnel trends and confirmatory factor analysis (CFA).			
14. SUBJECT TERMS Global Assessment Tool, GAT, Psychometric Validation, Psychometric Reliability, Confirmatory Factor Analysis, Exploratory Factor Analysis			**15. NUMBER OF PAGES** 141 **16. PRICE CODE**
17. SECURITY CLASSIFICATION OF REPORT Unclassified	**18. SECURITY CLASSIFICATION OF THIS PAGE** Unclassified	**19. SECURITY CLASSIFICATION OF ABSTRACT** Unclassified	**20. LIMITATION OF ABSTRACT** UU

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18

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ABSTRACT

Since 2011, the Training and Doctrine Command Analysis Center (TRAC) has supported the Army Analytics Group with research and analysis of an annually required psychometric instrument to test the resilience levels of service-members.. This year, at the request of Army Resiliency Directorate (ARD), TRAC research concentrated on the validity and the reliability of the GAT – an area not addressed by previous research. The research team used multiple approaches to examine the validity of the GAT, including work on personnel trends and confirmatory factor analysis (CFA). The results of this effort indicate that the GAT is a reliable instrument and we have proven validity to the extent that it is possible with the current information. Continued research is needed to confirm the validity of the GAT, using other instruments that could correlate with GAT resilience factors.

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LIST OF ACRONYMS AND ABBREVIATIONS

ANOVA	Analysis of Variance
ARD	Army Resilience Directorate
CFA	Confirmatory Factor Analysis
CSF2	Comprehensive Soldier and Family Fitness
DA	Department of the Army
EFA	Exploratory Factor Analysis
FS	Functional Support
GAT	Global Assessment Tool
MOS	Military Occupation Specialty
MRT	Mobile Resilience Training
NPS	Naval Postgraduate School
OP	Operations
OS	Operations Support
PDE	Person-Event Data Environment
SP	Special Operations
SRMR	Standardized root mean square residual
TLI	Tucker-Lewis Comparative Fit Index
TRAC	TRADOC Analysis Center
TRADOC	Training and Doctrine Command

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ACKNOWLEDGMENTS

I would like to thank the Army Analytics Group for the opportunity to support this important effort and the Army Resiliency Directorate for their support. I would like to thank MAJ Cardy Moten III for his institutional and historic knowledge of the PDE and the GAT. I would also like to thank MAJ Erik Wright and LTC Orndorff for their efforts on this year's research. Finally, I would like to thank Dr. Sam Buttrey for continuing to work on the GAT for a third consecutive year.

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SECTION 1. INTRODUCTION

1.1. PURPOSE

TRAC Monterey has been conducting research on the Global Assessment Tool (GAT) for the last four years with a different focus during each year. The year's research focused on the external validation of the GAT in order to assess the relevance, accuracy, and consistency of the measures reported to the participants of the GAT survey each year. Previous efforts have worked towards external validation, but this is the first research focused specifically on validation of the instrument.

The project team included: LTC Fredrick Orndorff and MAJ Eric Wright, students at the Naval Postgraduate School (NPS) and Dr. Samuel Buttrey, an Associate Professor at NPS.

1.2. BACKGROUND

A panel of psychological experts created the Global Assessment Tool (GAT) in 2008 as part of an effort gain insight into Soldier resiliency, with the ultimate goal of increasing resiliency in the Army. Starting with a large question bank from validated psychological measurement instruments, the subject matter experts arrived at a set of questions that a Soldier could answer in about an hour. The panel reworked questions and responses as needed and created new questions to fill in any perceived gaps. Army lawyers and chaplains ensured the questions were suitable and that Soldiers rights not violated by the survey (Christopher Peterson, 2011).[1]

The resulting survey consisted of 180 questions that measured four resiliency domains: Emotional, Social, Family, and Spiritual. Pilot testing on a sample of 8,000 Soldiers across grades indicated that the average completion time was 45 minutes leading the team to reduce the number of questions to 105. An exploratory factor analysis was conducted on both the long and shortened version of the instrument and the results of the EFA are said to be consistent and satisfactory by Peterson et. all (Christopher Peterson, 2011). A detailed validation report was not available, but Peterson et all state that "preliminary validation entailed relating GAT scores to existing screening

[1] In attendance at the initial creation of the GAT: O. Wayne Boyd, Carl A. Castro, Denise Clegg, Angela Duckworth, Stephen Lewandowski, Michael Mathews, Sharon McBride, Stephanie Muraca, Nansook Park, Christopher Peterson, Barry Schwartz, Martin E. P. Seligman, and Patrick M. Sweeney.

instruments, administered by the army for posttraumatic stress disorder, depression, and alcohol abuse as well as to global self-ratings of how individuals were doing in each of the four CSF domains of concern" (Christopher Peterson, 2011).

Many of the instruments used in the construction of the four factor GAT were validated prior to their combination and input into the GAT (Paul B. Lester, 2011). New questions were required for the emotional and family dimensions. Table 1 describes the questions and resilience aspects taken from validated resources. No documentation of a validation effort for the consolidated instrument is available at this time.

Resilience Factor	**Resilience Sub-Factor**	**Source of questions used to analyze factor in GAT**
Emotional	Bad/Good Coping	Written by Professors Peterson and Park, based on and paraphrasing other questionnaires, to measure strategies of coping, including problem-focused coping, emotion-focused coping, avoidance, positive reframing, and religious coping. (C.S. Carver, 1989)
	Catastrophizing	Measure pessimistic-optimistic explanatory style (catastrophizing- decatastrophizing) and are based on previously-used items. (Carl Peterson M. P., 2001)
	Character	From the Brief Strengths Inventory written by Professors Peterson and Park and have already been used with USMA Cadets and with deployed Soldiers. These items converge well with the respective character strength scales of the Values in Action Inventory of Strengths. (Peterson, 2007) (Carl Peterson M. S., 2004)
	Depression	From the Patient Health Questionnaire, already used by the United States Army to screen for depression. (K. Kroenke, 2001)
	Optimism	Measuring dispositional optimism. (M.F. Scheier, 1994)
	Positive/Negative Affect	Measures positive affect and negative affect. (D. Watson, 1998)
Social	Engagement	(A. Wrzesniewski, 1997) (C. Peterson, 2005)
	Loneliness	Measures loneliness and social engagement. (D. Russell L. P., 1980) (D. Russell L. P., 1978)
	Organizational trust scales	Measures trust and are military adaptations by COL Patrick Sweeney of organizational trust scales and have been used with deployed Soldiers.

		(R.C. Mayer J. D., 1999) (R.C. Mayer J. D., 1995) (P.J. Seeney, 2009)
Spiritual		Adapted from the Brief Multidimensional Measure of Religiousness/ Spirituality of the Fetzer Institute. (Institute, 1999)

Table 1 GAT 1.0 Factors and References (Paul B. Lester, 2011).

In 2013, the United States Army Medical Department conducted a pilot program for the addition of a fifth dimension to the GAT survey, the physical resiliency dimension. The physical dimension consisted of 57 questions covering physical fitness, nutrition, and sleep habits of the service member. These questions were tested on a sample set of about 14,000 service members. After exploring the output from the questions and testing the instrument, the physical dimension was left in the GAT and the GAT was relabeled as the GAT 2.0.

1.1.1. PREVIOUS RESEARCH

Marks and Buttrey concentrated on the effectiveness of the Mobile Resilience Training (MRT), a facet of the Army's Comprehensive Soldier and Family Fitness (CSF2) effort that trains Non-Commissioned Officers to facilitate hands-on resilience training at their have unit. The researchers evaluated the GAT scores of personnel that received the MRT from MRT trainers that were taught the MRT skills from different venues. Results indicated a statistically insignificant increase in GAT scores after the MRT (Christopher Marks, 2013).

Next, Masotti explored various means of scoring of the GAT and conduct a factor analysis on the questions in the GAT. The team's research also evaluated the differences in scores between the Army components (Active, National Guard and Reserve) and found that Reserve forces had the highest GAT scores, followed by the National Guard and then the Active duty soldiers (Edward M. Masotti, 2014).

In conjuncture with Masotti, Moten determined that the structure of the GAT consisted of six or seven different sub-scales, depending on the year it was given. His work concentrated on the GAT 1.0, which reported four different facets of resilience (emotional, spiritual, social, and family). The structure that Moten proposed differed from the one that was reported to the GAT 1.0 participants upon their completion of the GAT (Moten, 2014).

Most recently, Moten concentrated his efforts on a factor analysis of the GAT, attempting to determine the true latent variable structure of the GAT. MAJ Moten and his team used cluster analysis to determine that there are five latent classes for the GAT: Very High, High, Moderate, Low, and Very Low. The owners of the GAT plan to implement changes to the GAT based on this analysis (Cardy Moten III, 2015).

There has been a lot of external research on the GAT and the different parts to the Army's CSF2 effort. The main research we wanted to highlight in this report is a yet to be published paper by Drs. Loryana Vie, Lawrence Scheier, Marten Seligman, and Paul Lester (Loryana L. Vie, 2014). In this study, Vie et. al. studied the factor structure of the GAT using a different method than Masotti and Moten. Their results differed from the TRAC sponsored research, casting doubt on the actual factor structure of the GAT. The results of these factor analyses are located in Appendix I.

1.1.2. GAT CRITICISM

Brown questions the origins of the CSF2 survey instrument, stating that the theoretical model that was the basis for CSF2 was originally intended for children rather than Soldiers (Brown N. J., 2015). He also questions if the "instruments used to measure the performance of the program are reliable, valid, and appropriate for the circumstances" (Brown N. J., 2015). Overall, Brown's major concern is the lack of transparency about the creation of the GAT and the process of building CSF2.

Eidelson, Pilisuk and Soldz state that the CSF2 program is a large experiment based on conclusive studies but hypothesis (Roy Eidelson, 2011). The majority of the criticism in the article centers on the lack of external validation of the CSF2 program and the rush to force the program on all Army personnel prior to conducting a clinical trial to establish validation.

1.3. RELIABILITY AND VALIDATION

Psychometric reliability is "how consistent a measure is of a particular element over a period of time, and between different participants" (Test Reliability, 2016). An instrument measuring, for instance, intelligence or task aptitude should yield similar results for similar takers, regardless of the environment of administration for the instrument is administered and

time between administrations. Psychometric validation refers more to the scores derived from the instrument than to the instrument itself. The core of validation is to ensure that the meaning of "the information gained from the test answers is relevant to the topic needed" (Test Validity, 2016). Therefore, the validation of an instrument relies as much upon how the questions are interpreted as the structure of the questions themselves.

The concepts of reliability and validation are of vital importance to any type of psychometric instrument, especially when the instrument measures factors that are impossible to empirically measure. Examples of studies that would be difficult to validate are ones that measure intelligence or love or any type of emotional state. Without some type of validation, there is no guarantee that the instrument is measuring what it claims to measure and without a test of reliability there is no definitive proof that the instrument can be used again and deliver the same or similar results. It is very unlikely that an instrument can have any type of validity if that instrument is not reliable.

1.1.3. INSTRUMENT RELIABILITY

1.1.3.1. ***Parallel-Forms Reliability***

Parallel-forms reliability occurs when an instrument's participants take two different instruments that have the same focus but have different equipment or procedures and both instruments give the same results. To test this, a researcher could give an instrument participant an instrument electronically and a slight variation of the instrument physically and compare the results (Test Reliability, 2016).

1.1.3.2. ***Internal Consistency Reliability***

Internal consistency reliability evaluates the items within the instrument. If two different questions ask for similar information, the instrument participant should answer them similarly. This measure also touches on the factor analysis of the instrument. The questions on an instrument should continually load into the same factors, regardless of the instrument participant (Test Reliability, 2016).

1.1.3.3. ***Inter-Rater Reliability***

An analyst measures inter-rater reliability by allowing two different subject matter experts the opportunity to evaluate the same instrument taken by the same participants. Both subject matter experts should come to the same or at least similar conclusions about the scoring of the instrument (Test Reliability, 2016).

1.1.3.4. ***Test-Retest Reliability***

If an instrument participant takes an instrument and then retakes the instrument later to similar results, then the instrument infers test-retest reliability. Ideally, there should not be too small or large of a gap in time between the initial participation and the retesting (Test Reliability, 2016).

1.1.4. INSTRUMENT VALIDITY

1.1.4.1. ***Criterion Validity***

Criterion validity is a test of how well the test predicts some type of future behavior. For instance, if a test taker does well on a leadership test, they should do well in a leadership position. In order to test this measure, a researcher would need to have some type of event or action to compare the results of the instrument against (Test Validity, 2016).

1.1.4.2. ***Predictive Validity***

This measure is similar to criterion validity, but questions more if a subject receives a score on an instrument they should receive a relatively similar score on another like instrument. To test this measure a researcher would need a different instrument that measured the same factors to compare the results of the first instrument against (Test Validity, 2016).

1.1.4.3. ***Content Validity***

Content validity is concerned with the make-up of the instrument. For instance, emotional resilience contains of many factors, such as catastrophizing and good and bad affect. Thus, it is important that the instrument accurately test each of these measures so the aggregation of the results translate into some overall measure of the emotional level. There are numerous methods

to test content validity such as exploratory and confirmatory factor analysis (Test Validity, 2016).

1.1.4.4. ***Construct Validity***

Construct validity measures how accurate the instrument is overall. Thus, if the GAT has construct validity then the instrument gives an accurate portrayal of the resilience level of the instrument participant. The best way to measure construct validity is to compare the results of the instrument against the results of a similar instrument (Test Validity, 2016)

1.4. CONSTRAINTS, LIMITATIONS, & ASSUMPTIONS

Constraints:

- The research team must complete the research for the study no later than 31 December 2016.
- The research team must complete all analysis in the Person-Event Data Environment (PDE).

Limitations:

- IRB determination required prior to the start of the project.
- There are no other mandatory Army wide instruments with similar measure as the GAT to compare the GAT for validation.

Assumptions:

- Previous methods and analysis will be useful in external validation and exploratory predictive analysis.
- Data may exist in the PDE, or the research team can import the data into the PDE for external validation of the GAT 2.0.

1.5. STUDY TEAM

- MAJ Jarrod Shingleton, Combat Analyst, TRAC-MTRY.
- Dr. Samuel Buttrey, Associate Professor, NPS.

- LTC Frederick Orndorff, Student, NPS.
- MAJ Erik Wright, Student, NPS.

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SECTION 2. METHODOLOGY

1.6. DATA COLLECTION

All of the data used in this study was located in the Person-Event Data Environment (PDE). Five different data sources used for this study, illustrated in Table 2. The reliability, validation, and factor analysis study used the GAT 1.0 and GAT 2.0. Erik Wright's research into the differences in GAT scores between demographics used GAT 1.0, GAT 2.0, the transaction data, and the military personnel data. The research conducted by Dr. Samuel Buttrey used all of the available data sources.

Data Source Name	**Explanation**
GAT 1.0	Global Assessment Tool 1.0 (Oct 09-Jun 15)
GAT 2.0	Global Assessment Tool 2.0 (Jun-15-Current)
Army Transaction Records	Dates and information pertaining to movement in, out and around in the Army.
Army Demographic Data	Soldier age, gender, occupational specialty, etc.
Army CTS data	Deployment data.
Army Health Data (PHA, PDHA, and PDHRA)	Periodic Health Assessment, Post Deployment Health Assessment, and Post Deployment Health Reassessment Data.

Table 2 Data sources used for the research.

The research team conducted all of the research in the PDE using the R statistical programming language. All of the pictures and graphics that are in this report and were used for any other reports were vetted by the administrators of the PDE to ensure that there was no sensitive personnel identifying information published without the knowledge of the GAT participants.

1.7. DEPLOYMENT ANALYSIS

In this section, we examine the correlation between deployment and changes in GAT scores. The goal was to see if there is a predictable change in GAT associated with deployment. If deployments were associated with increased GAT scores, on average, then we might conclude that soldiers are more resilient by exposure to the stresses of deployment. Conversely, a decrease in GAT scores associated with deployment might suggest that deployment reduces resilience, on average, and therefore the Army might try to address that reduction through training or other policies.

2.1.1. DATA

The data consisted of two major portions. The first of these is the GAT scores themselves, stored separately as original "GAT" and "GAT 2" responses. For these purposes, we looked at the pre-computed Emotional, Family, Social and Spiritual scores, rather than at responses to individual questions. The GAT data also gives each soldier's gender and rank group.

The second piece of data is the deployments file. This gives one row for each recorded deployment, with the soldier's identification number and the deployment's starting and ending dates. Notable, this file does not carry information about the deployment's location, so we cannot distinguish between combat and non-combat deployments.

2.1.2. GAT SCORES

In this analysis, the response variable – the measurement that we hope to model and predict – is the GAT score. In this case, we use the average of the responses for each of the four classes of question – emotional, family, social and spiritual. Ours is certainly not the first analysis to take this road. However, for completeness we note a few concerns with using this. First, the responses to the individual questions are not, fact, numeric – they are instead Likert-type responses, typically on a 1 to 5 scale. (For example, the five categories might be like the familiar "Strongly Disagree," "Disagree," "Neutral," "Agree," "Strongly Agree"). Treating these Likert values as numeric is naïve, since for any particular respondent there is no reason that the distance between "Strongly Disagree" and "Agree" should be the same as the distance between "Neutral" and "Agree." It is also the case that the different factors represent greatly differing numbers of questions. Factors

(like "Spiritual") constructed from only a few questions will be more "granular" than those constructed from many questions. Moreover we know that GAT scores have been going up across the Army, and indeed a certain number of soldiers answer "5" to every question for a factor (again, particularly for those with few questions). Obviously, we cannot measure an increase in GAT score for these soldiers.

Some soldiers give the same answer to almost every question. We expect that a "4" on a particular question, recorded by a soldier who answers "5" to almost everything, is quite different from a "4" from a soldier who answers "3" to almost everything. One might adjust each soldier's responses to account for his or her modal response – although earlier work has not yet shown this to be particularly revealing.

Sometimes the same soldier will take the GAT multiple times and appear in a sample more than once. We treat these multiple occurrences as independent, even though they are not. We expect there to be essentially no effect from this.

2.1.3. DATA HANDLING

Our data handling process proceeded like this. We limited our consideration to active-duty regular Army soldiers. For each deployment, we identified the GAT and GAT2 surveys taken by that soldier. Then among all those GATs for that soldier, we identified the one with the latest date, among all those that preceded the deployment's start date. Then we extracted the GAT or GAT2 with the earliest date among all those that followed the deployment's end date. These two GATs entirely surrounded the deployment – we call them "bracketers" – and formed the two to compare. Of course, in many cases a deployment contained no brackets, since, for example, there was no GAT recorded after the deployment ended. The research team dropped those deployments. It is possible, though unlikely, that one pair of bracketers would contain two separate deployments; we judged the risk of this to be small.

We then extracted the scores from the bracketers and compared them. For each soldier we know his or her gender and rank group (which could change for a small number of soldiers; we used the value as of the first bracketing GAT) and the duration of the deployment.

1.8. FACTOR ANALYSIS

Factor analysis is a method of investigating tests, surveys, or other such instruments for the underlying connections not readily apparent when composing the instrument. Factor analysis collapses a "large number of variables into a few interpretable underlying factors" (Rahn, 2016). Factors are often the element of interest to the investigator. Examples of factors from the GAT would be Emotional Resilience or Family Resilience.

For his research, LTC Orndorff continued the work that MAJ Moten and other worked on in previous years, but expanded his research from exploratory factor analysis to confirmatory factor analysis. To test his identified factors, LTC Orndorff used a χ^2 test statistic to determine the goodness of fit of his model. He also used standardized root mean square residual and a parsimony correction index to test the goodness of fit for his model. For a more detailed overview of LTC Orndorff's methodology, refer to his Master's Thesis (Orndorff, 2016).

1.9. PERSONNEL TRENDS

For his research, MAJ Wright concentrated on personnel trends analyzable from the GAT. MAJ Wright concentrated on the differences in GAT scores based on three different aspects of the military: discharge characterization (either favorable or unfavorable), the reenlistment timing (survey completion before or after reenlistment), and the Military Occupational Specialty (MOS) of survey respondents. For favorable and unfavorable discharge, MAJ Wright evaluated all of the types of military discharge and assigned each participant to the "favorable" or "unfavorable" bin according to subject matter expert input. MAJ Wright conducted numerous student-*t* tests and analysis of variance (ANOVA) tests to determine if there was a statistical difference between his chosen groups. For a more detailed overview of LTC Wright's methodology, refer to his master's Thesis (Wright, 2016).

1.10. RELIABILITY AND VALIDATION

The research team was very limited in the ability to validate the GAT. This is due to validation of a psychometric instrument relying heavily on either another instrument that is already validated and shows the same results or some type of predictive event (i.e. a medical survey could test the potential for cancer and can evaluate the results of the survey based on how

many of the takers develop cancer) or on the predictive power of the instrument. There are no other Army mandated instruments that test the same or similar measures as the GAT and the very nature of the GAT limits its predictive power. However, the team did use some methods to test some types of validity. Before tests of validity, the team concentrated efforts on reliability of the GAT, as it is almost impossible for an instrument to be valid yet unreliable (AERA, 2014).

To test the reliability of the GAT, both 1.0 and 2.0 versions, the research team relied on test-retest reliability. The Army requires the administration of the GAT to each Army member on an annual basis. It is ideal to determine test-retest reliability with results that are closer together than yearly, but it was determined by the research team that, on average, there should not be that large of a change in GAT score over a one year period.

As stated above, there are no other mandated army instrument that tests resilience. There are other instruments that test certain factors of the GAT (such as the Positive and Negative Affect Schedule: PANAS), but data for the GAT participants on other instruments is not available. Thus, the main measure to test validity was construct validity. A test of construct validity should determine that the questions load to the same factors no matter the demographics or time that of administration of the test.

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SECTION 3. ANALYSIS AND FINDINGS

3.1. DEPLOYMENT AND GAT ANALYSIS

First, it is of interest to compare the GAT scores of men and women. However, before doing that we compare the other predictors by gender. Table 1 shows the average number of days of a deployment, by gender and rank group, together with sample sizes.

Table 1: Sample sizes and average deployment lengths, by gender and rank group

	Number			Avg.Duration	
Rank	Female	Male	% Female	Female	Male
Enlisted Junior	6,689	55,772	10.7	243	242
Enlisted Senior	4,898	51,910	8.6	240	225
Officer Junior	2728	15,252	15.2	231	219
Officer Senior	872	9,171	8.7	196	187
Warrant Junior	389	4,716	7.6	242	216
Warrant Senior	52	869	5.6	174	152

We note two points here. First, to no surprise, we see greater concentrations of women in the lower ranks than in the more senior ones. Therefore, rank group likely confounds any differences we observe between the responses of men and women. Second, the average deployment duration is higher for women than for men at every rank (although for the largest group, junior enlisted, this average difference is tiny). So duration of deployment also confounds any differences we see between the responses of men and women. For these reasons, we do not look at gender difference alone, but only in conjunction with these other predictors.

3.1.1. The Four Dimensions: Regression

For each of the four dimensions we computed each soldier's change in average score for that dimension between the two bracketing GATs. Then we used ordinary least-squares regression to model that change as a function of the predictor's gender, rank group, and length of deployment (numeric, in days).

The most important result is that there is no real practical relationship between changes in GAT and any of the predictors among those soldiers who deployed. The rank group is always a statistically significant predictor and always the most important (as measured by the effect of

dropping one term at a time). In every case junior enlisted soldiers have the smallest positive change. This result seems to jibe with our intuition.

The "length of deployment" factor is also always statistically significant, except in the Social dimension. The sign of this effect is positive, indicating that longer deployments are associated with more positive changes in GAT. Unlike the last, this result is arguable unexpected. Gender is statistically significant in the Social and Emotional dimensions; in all four dimensions, males have a larger positive change in GAT than females. However, all of these statistically significant findings arise almost entirely from the huge sample sizes (approximately n = 150,000). In every case, the adjusted R2 for the regression is smaller than 0.5%. We give a very short discussion of statistical versus practical significance in an appendix below.

Table 2 shows the results from one of these regressions, this one for the Emotional dimension. The two categorical variables of rank group and gender have as baselines, junior enlisted and female, respectively. Those coefficients are zero in the table. The "Estimate" column then shows the expected change in Emotional GAT associated with each predictor. Therefore, for example, we expect a senior officer's emotional GAT to increase by 0.08 points more than that of a junior enlisted soldier, all other things held equal. The estimate for "Deployment" is a tiny number, but it refers to the change associated with a deployment of 1 day. For a 250-day deployment, the expected change under this model would be 200 × .0000538, or about 0.011.

Table 2: Regression results for Change in Emotional GAT score

Term	Estimate	SE	t-value	p-value
Intercept	–0.088	0.00561	0	0
Enlisted Junior	0			
Enlisted Senior	0.0426	0.00309	13.8	0
Officer Junior	0.0758	0.00449	16.9	
Officer Senior	0.0803	0.00581	13.8	0
Warrant Junior	0.0529	0.00783	6.77	0
Warrant Senior	0.0599	0.0179	3.35	0.000819
Female	0			
Male	0.0473	0.00451	10.5	0
Duration	0.0000538	0.0000131	4.10	0.0000416

The patterns of the coefficients are common to all four dimensions. (In fact the sets of changes are somewhat correlated, with correlation values of around 0.5.) For completeness, we

give the regression tables for the other three dimensions in the appendix. While the effects are unmistakable, it is important to remember that their magnitudes are tiny.

3.1.2. Proportion of Changes:

We also computed the proportion of changes that were positive, and compared that to the proportion that were either negative or unchanged. This less powerful approach provides some quick intuition. Table 3 shows the proportion of changes in the Emotional dimension that were positive, broken down by gender and (junior or senior).

Table 3: Proportion of changes of sign in Emotional dimension, by gender and seniority

	Junior Females	Senior Females	Junior Males	Senior Males
Decreased	47.4	44.6	43.8	41.2
Unchanged	9.6	11.3	10.2	11.3
Increased	43.0	44.1	46.0	47.5

The pattern, while small in magnitude, is clear: the change in average Emotional GAT is more often decreases for women, and more often increases for men. Senior personnel have higher rates of positive change than junior ones for each gender. This pattern holds true in the other dimensions as well, except for Spiritual, in which every group saw more increases than decreases. There are also many more "unchanged" entries in that dimension, but we attribute this to the much smaller number of questions on this dimension providing fewer possible outcomes for any soldier. We have put the tables corresponding to table 3 for the other dimensions in the appendix.

3.2. CONFIRMATORY FACTOR ANALYSIS

3.2.1. MODEL SPECIFICATION

Following Moten our research used a seven-factor model with the indicator-factor loading pattern shown in Figure 1 (Cardy Moten III, 2015). We converted all indicator scoring to a continuous five-point scale, with higher scores reflecting higher levels of resiliency. Initial analysis focused on determining if the GAT 1.0 factor model is valid for GAT version 2.0.

	GAT 1.0	GAT 2.0
Depression	Q142	Q4839
	Q143	Q4840
	Q144	Q4841
	Q145	Q4842
	Q146	Q4843
	Q147	Q4844
	Q148	Q4845
	Q149	Q4846
	Q150	Q4847
	Q151	Q4848

	GAT 1.0	GAT 2.0
Character	Q42	Q4790
	Q43	Q4791
	Q44	Q4792
	Q45	Q4793
	Q46	Q4794
	Q47	Q4795
	Q48	Q4796
	Q49	
	Q50	Q4798

	GAT 1.0	GAT 2.0
Positive Affect	Q155	Q4852
	Q158	Q4855
	Q159	Q4856
	Q162	Q4859
	Q163	Q4860
	Q166	Q4864
	Q170	
	Q171	Q4869
	Q172	Q4862
	Q173	Q4870

	GAT 1.0	GAT 2.0
Catastrophizing	Q54	
	Q55	
	Q56	
	Q57	
	Q58	Q4890
	Q175	
	Q176	Q4892

	GAT 1.0	GAT 2.0
Social	Q100	Q4829
	Q103	Q4830
	Q104	Q4831
	Q106	Q4832

	GAT 1.0	GAT 2.0
Spiritual	Q82	Q4813
	Q84	Q4814
	Q86	Q4815
	Q90	Q4816

	GAT 1.0	GAT 2.0
Neagtive Affect	Q160	Q4857
	Q165	Q4863
	Q167	Q4865

Figure 1 GAT 1.0 and GAT 2.0 indicator-factor loadings

We removed and modified twenty-two questions during the transition from GAT 1.0 to GAT 2.0. Of these 22 questions, seven questions (yellow boxes) were significant indicators in the initial exploratory analysis conducted by Moten. The common factor "catastrophizing" has only two remaining indicators in GAT 2.0; therefore this factor is under-identified and cannot be modeled because there are an infinite number of parameter estimates that result in perfect model fit (Brown T. A., 2015). Due to under-identification, we removed "catastrophizing" from the factor model before completing a confirmatory factor analysis (CFA). The calculated over-identified factor model contains 38 indicators, 741 elements in the variance-covariance input matrix, and 76 freely estimated parameters, resulting in 665 degrees of freedom.

We deviated from Moten's exploratory factor analysis by generalizing the factor model across all GAT 1.0 observations including observations from 2014. In Moten's analysis, he conducted individual EFAs for each year between 2009 and 2013. In this analysis, we generalized his factor models and created one model to describe all GAT 1.0 observations. We performed a CFA on the GAT 1.0 factor model to ensure that the generalization does not adversely change Moten's factor model. An initial CFA provided acceptable values for goodness-of-fit metrics, with standardized root mean square residual (SRMR), root mean square error of approximation

(RMSEA), and Tucker-Lewis comparative fit index (TLI) below the thresholds, see Table 3. These findings confirm the generalized model is an adequate representation of the GAT 1.0 survey.

N	$\chi 2$ / p-value	SRMR	RMSEA	RMSEA 90% CI	TLI
48584	94763.50 / 0.000	0.037	0.055	[0.054, 0.055]	0.919

Table 3 GAT 1.0 generalized factor model goodness-of-fit metrics

3.2.2. GAT 2.0 EFA without physical scoring data

Our initial findings determined a seven-factor model best represented the GAT 2.0 latent class structure. The seven factors included character, trust, excitement, depression, learning, stress, and performance. Only the "character" factor followed the same indicator factor relationships shown in the GAT 1.0 factor model. All factors met initial fit metrics; however, the Cronbach's alpha value of 0.595 for "performance" signifies the performance indicators could provide a poor estimate when measuring this factor. Table 4 provides the GAT 2.0 EFA model fit measures and Figure 2 provides the model's path diagram.

	Cronbach's Alpha	Proportion of Variance for Factor	Cumulative Variance
Character	0.848	0.119	0.119
Trust	0.759	0.078	0.197
Excitement	0.741	0.073	0.269
Depression	0.714	0.070	0.339
Learning	0.805	0.066	0.405
Stress	0.651	0.059	0.465
Performance	0.595	0.047	0.511

Table 4 GAT 2.0 EFA measures

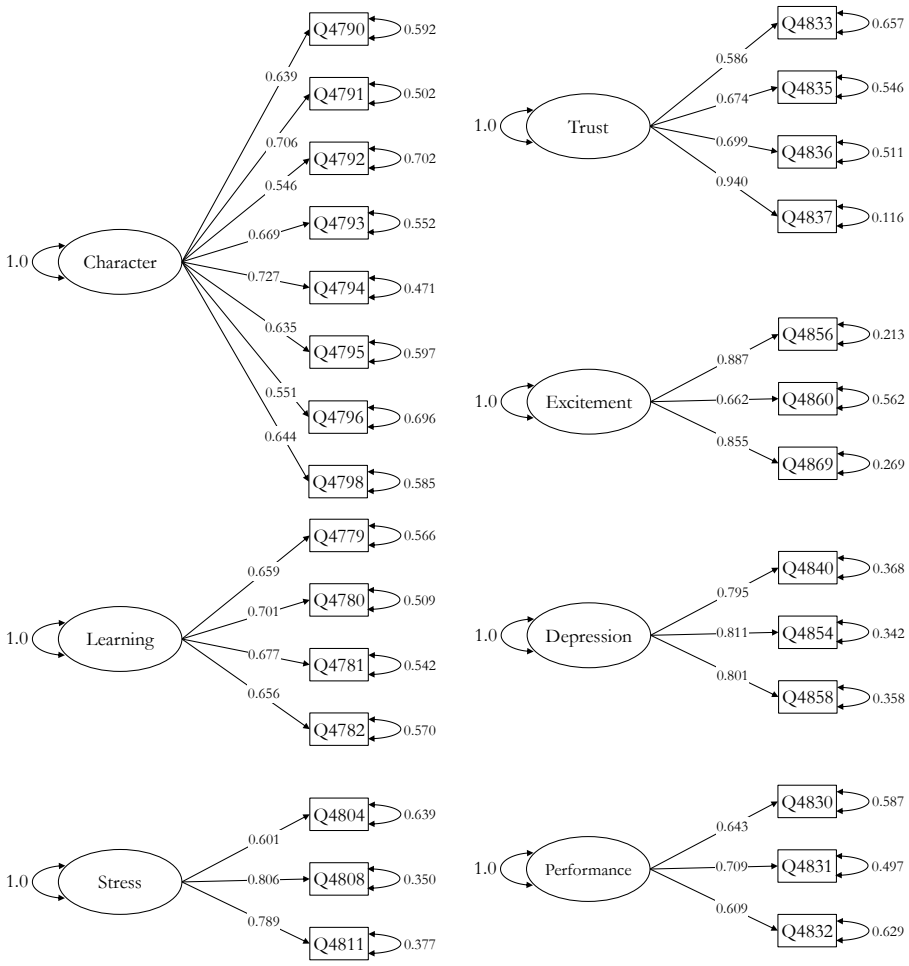

Figure 2 GAT 2.0 (removing physical scoring) factor model path diagram

To confirm the GAT 2.0 factor model is an adequate representation of the GAT 2.0 survey, we performed a CFA using two random test samples independent from the sample used to create the factor model. See Table 5 CFA fit metrics for the GAT 2.0 seven-factor model for a comprehensive breakdown of the results. The low p-value for χ^2 resulted from the large sample size of 49,041 observations. Compared to the GAT 1.0 factor model the GAT 2.0 factor model significantly improved the model fit. The goodness-of-fit metrics provide adequate support to substantiate our hypothesis that the seven-factor model provides a good representation of the latent variable and factor relationships of the GAT 2.0 survey.

For further validation of our results, we produced another random sample of GAT 2.0 observations and conducted a CFA to determine if the model produced similar goodness-of-fit metrics. This test set used a smaller sample of GAT 2.0 observations independent of the sample

used to create the model, as well as, the sample used in the initial test. See Table 5 CFA fit metrics for the GAT 2.0 seven-factor model for a comprehensive breakdown of the results. The resulting goodness-of-fit metrics for the additional test sample provides additional support that the GAT 2.0 seven-factor model is a good representation of the GAT 2.0 survey.

Model 2: GAT 2.0 removing physical scoring section of survey

Description: GAT 2.0 factor model
Purpose: Confirm GAT 2.0 factor model adequately accounts for variation in survey responses
Model Data: GAT 2.0 non-physical scoring data (50k observations)

Measure of Quality 1: CFA using a random sample of GAT 2.0 survey responses (50k observations)

N	$\chi 2$ / p-value	SRMR	RMSEA	RMSEA 90% CI	TLI
49041	17754.55 / 0.000	0.032	0.033	[0.032, 0.033]	0.949

Measure of Quality 2: CFA using a random sample of GAT 2.0 survey responses (5k observations)

N	$\chi 2$ / p-value	SRMR	RMSEA	RMSEA 90% CI	TLI
4987	5147.69 / 0.000	0.038	0.054	[0.053, 0.056]	0.939

Table 5 CFA fit metrics for the GAT 2.0 seven-factor model

3.3. GAT 2.0 PHYSICAL SCORING EFA

During the transition from GAT 1.0 to GAT 2.0 the CSF2 program office decided a new section with physical metrics could provide additional insights into individual resiliency levels. In order to see how the new physical scoring section affects the GAT responses we conducted both an EFA and a CFA to determine which factors best represent the physical component of GAT 2.0. Extracting only GAT 2.0 physical scoring data, we performed an EFA to determine an acceptable factor model. The resulting EFA determined a three-factor model was a satisfactory representation of the GAT 2.0 physical section. The three factors include activity, health, and nutrition. After calculating the Cronbach's alpha scores, the three-factor model showed signs of questionable to poor representations of the GAT 2.0 physical data (Table 6). Nutrition produced the lowest alpha score of 0.552. However, since the alpha scores represent the lower bound for reliability, we continued with a CFA of the model to determine if the three-factor model was an adequate representation of the physical section of GAT 2.0. Since the physical section of GAT 2.0 included a large number of categorical indicators, we used weighted least squares to determine goodness-of-fit. Figure 3 provides a graphical representation of the GAT 2.0 physical factor model.

	Cronbach's Alpha	Proportion of Variance for Factor	Cumulative Variance
Activity	0.629	0.111	0.111
Health	0.675	0.108	0.218
Nutrition	0.552	0.088	0.307

Table 6 EFA measures of the GAT 2.0 physical scoring

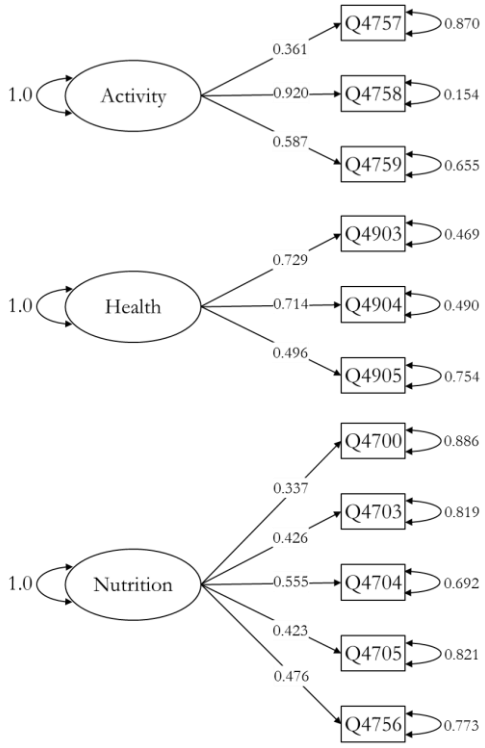

Figure 3 GAT 2.0 physical scoring factor model path diagram

As before, we used two separate test samples to determine the overall level of fit for the factor model. See Table 5 CFA fit metrics for the GAT 2.0 seven-factor model for a comprehensive breakdown of the results. The resulting goodness-of-fit metrics for the larger sample provides support that the GAT 2.0 physical scoring, three-factor model, is a good representation of the GAT 2.0 physical section.

Continuing the testing using a smaller sample, we found the three-factor model provided similar results. See Table 5 CFA fit metrics for the GAT 2.0 seven-factor model for a comprehensive breakdown of the results. The resulting goodness-of-fit metrics for the smaller test

sample provides supplementary support that the three-factor model is a good representation of the GAT 2.0 physical scoring section.

Model 3: GAT 2.0 physical section of GAT 2.0 survey

Description: GAT 2.0 factor model
Purpose: Confirm GAT 2.0 factor model adequately accounts for variation in survey responses
Model Data: GAT 2.0 physical scoring data (50k observations)

Measure of Quality 1: CFA using a random sample of GAT 2.0 survey responses (50k observations)

N	$\chi 2$ / p-value	SRMR	RMSEA	RMSEA 90% CI	TLI
49024	762.928 / 0.000	0.025	0.019	[0.018, 0.020]	0.959

Measure of Quality 2: CFA using a random sample of GAT 2.0 survey responses (5k observations)

N	$\chi 2$ / p-value	SRMR	RMSEA	RMSEA 90% CI	TLI
4904	112.24 / 0.000	0.038	0.019	[0.015, 0.023]	0.962

Table 7 CFA fit metrics for the GAT 2.0 three-factor model (physical scoring)

3.4. GAT 2.0 EFA

We determined that the GAT 1.0 six-factor model did not adequately represent the GAT 2.0 survey. Additionally, the non-physical section of GAT 2.0 resulted in a seven-factor model, and a three-factor model best represented the physical section of GAT 2.0. The last portion of the analysis focuses on determining the significant latent variables and the indicator-factor relationship for the 187-question GAT 2.0 survey in totality.

An exploratory factor analysis (EFA) of GAT 2.0 produced a model with 45 significant indicators and 10 common factors that account for the variation among the survey responses. The ten factors include positive affect, depression, character, spiritual, performance, nutrition, negative affect, activity, health, and sleep. Positive affect, depression, character, spiritual, and negative affect produced indicator-factor loadings similar to those seen in the GAT 1.0 EFA; however only positive affect included the same indicators as the GAT 1.0 EFA. Additionally, the factor model resulted in five new common factors with four relating to the physical scoring section of GAT 2.0.

Of note is that even though our initial GAT 2.0 EFA focusing on the non-physical section produced a well-behaved seven-factor model, only character and performance are retained in the GAT 2.0 EFA that includes the physical scoring section. Most of the latent variables in the GAT 2.0 factor model produced high Cronbach's alpha scores; however, the activity and sleep factors showed marginal scores of 0.552 and 0.564 respectively. We provide the EFA measures and path diagram for the ten-factor model in Table 8 and Figure 4 respectfully.

	Cronbach's Alpha	Proportion of Variance for Factor	Cumulative Variance
Positive Affect	0.943	0.125	0.125
Depression	0.894	0.074	0.199
Character	0.880	0.066	0.265
Spiritual	0.847	0.052	0.317
Performance	0.810	0.047	0.364
Nutrition	0.746	0.043	0.407
Negative Affect	0.791	0.036	0.433
Activity	0.552	0.030	0.473
Health	0.675	0.028	0.501
Sleep	0.564	0.024	0.524

Table 8 GAT 2.0 EFA measures

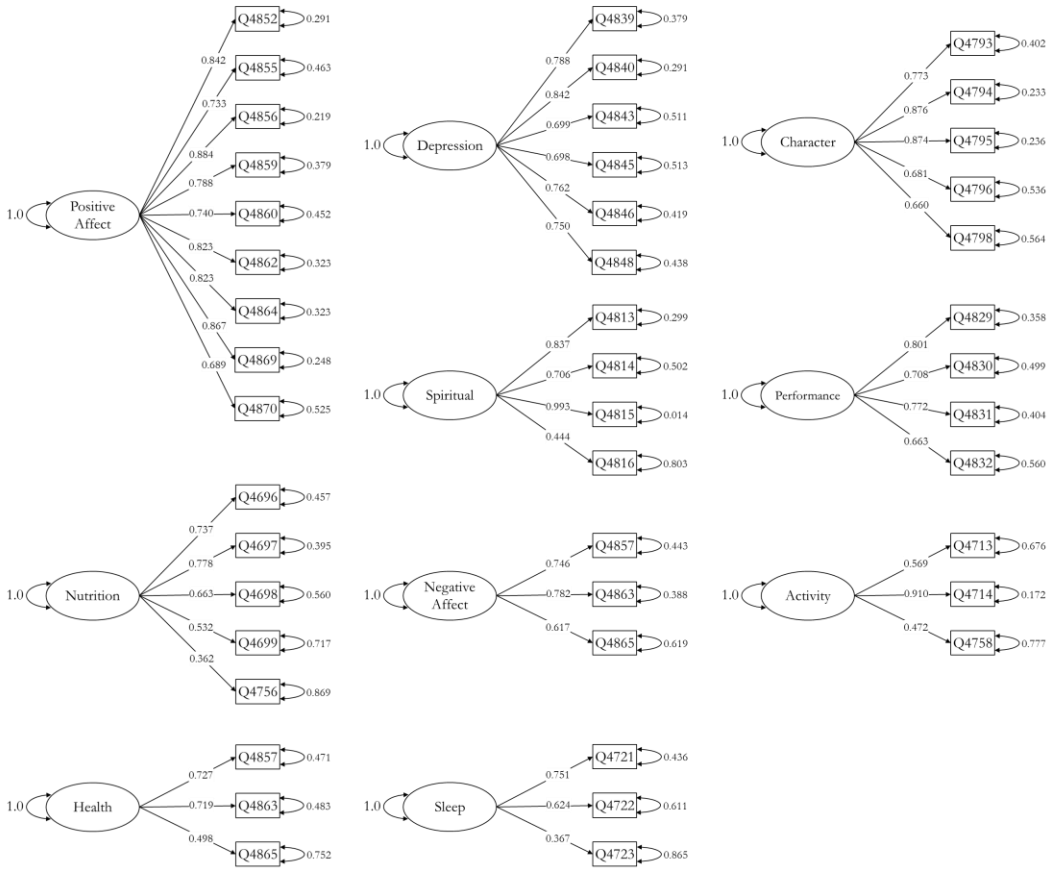

Figure 4 GAT 2.0 factor model path diagram

To determine if the ten-factor model is an adequate representation of GAT 2.0, we completed a CFA and analyzed the model using goodness-of-fit metrics. See Table 5 CFA fit metrics for the GAT 2.0 seven-factor model for a comprehensive breakdown of the results. The resulting fit metrics support the hypothesis that the ten-factor model is a suitable representation of the GAT 2.0 survey and this model satisfactorily identifies the factors that account for the variation in the survey responses.

Continuing the testing using a smaller sample, we found the factor model provided similar results. See Table 5 CFA fit metrics for the GAT 2.0 seven-factor model for a comprehensive breakdown of the results.

Model 4: GAT 2.0
Description: GAT 2.0 factor model
Purpose: Confirm GAT 2.0 factor model adequately accounts for variation in survey responses
Model Data: GAT 2.0 data (50k observations)

Measure of Quality 1: CFA using a random sample of GAT 2.0 survey responses (50k observations)

N	$\chi 2$ / p-value	SRMR	RMSEA	RMSEA 90% CI	TLI
49015	62673.81 / 0.000	0.032	0.037	[0.037, 0.038]	0.940

Measure of Quality 2: CFA using a random sample of GAT 2.0 survey responses (5k observations)

N	$\chi 2$ / p-value	SRMR	RMSEA	RMSEA 90% CI	TLI
4988	7435.27 / 0.000	0.033	0.038	[0.037, 0.039]	0.940

Table 9 CFA fit metrics for the GAT 2.0 ten-factor model

Comparing the GAT 2.0 CFA results with our predetermined fit index thresholds, the ten-factor model met all required thresholds. The SRMR, RMSEA, and TLI for the factor model are well below our fit thresholds; therefore, we can conclude the ten-factor model shows an acceptable fit for the GAT 2.0 survey data. Our analysis determined there are 45 significant indicators and 10 common factors for GAT 2.0.

For a more thorough explanation of the analysis and finding for the EFA done by LTC Orndorff, refer to his Master's Thesis (Orndorff, 2016).

3.5. PERSONNEL TRENDS

3.5.1. DISCHARGE CHARACTERIZATION

The first step in determining whether dimensional resiliency scores for respondents discharged under favorable circumstances are significantly greater than those of respondents discharged under unfavorable circumstances is to conduct two-sample t-tests to determine statistical significance. Next, we report the effect size for each dimension of resiliency to gain an understanding of the relative strength of any difference in mean resiliency scores.

Findings are generally consistent across both versions of the GAT survey. The results presented in Table 10 and Table 11 indicate that GAT 1.0 survey respondents discharged under favorable circumstances have significantly greater mean dimensional resiliency scores across the Emotional, Social, Family, and Spiritual dimensions. Likewise, the results indicate that GAT 2.0 respondents discharged under favorable circumstances have significantly greater mean resiliency scores across each dimension, including the Physical dimension. Comparing effect sizes to Cohen's (Cohen, 1988) guidelines, we characterize the relative strength of the difference in mean

resiliency scores as “small” for both versions of the GAT, though the effect appears stronger for GAT 2.0.

GAT 1.0 Discharge Characterization Analysis				
Number of observations				
Favorable	315,335			
Unfavorable	74,069			
Total	**389,404**			
Dimension	Mean Score: Favorable	Mean Score: Unfavorable	ES	p-value
Emotional	3.783	3.695	0.135	***<0.001***
Social	3.850	3.804	0.066	***<0.001***
Family	3.968	3.926	0.051	***<0.001***
Spiritual	3.664	3.600	0.006	***<0.001***

Table 10 Results of GAT 1.0 Discharge Characterization Analysis.

GAT 2.0 Discharge Characterization Analysis				
Number of observations				
Favorable	50,707			
Unfavorable	8,611			
Total	**59,318**			
Dimension	Mean Score: Favorable	Mean Score: Unfavorable	ES	p-value
Emotional	3.911	3.692	0.349	***<0.001***
Social	4.083	3.920	0.284	***<0.001***
Family	3.967	3.770	0.209	***<0.001***
Spiritual	4.150	3.910	0.287	***<0.001***
Physical	3.532	3.482	0.090	***<0.001***

Table 11 Results of GAT 2.0 Discharge Characterization Analysis.

3.5.2. REENLISTMENT

To determine whether dimensional resiliency scores for respondents who completed the GAT survey after reenlistment are significantly greater than those of respondents who completed the survey before reenlistment, the same approach is taken as with the discharge characterization analysis.

Similar to the discharge characterization analysis, findings are generally consistent across both versions of the GAT survey, with the lone exception of the Spiritual dimension for GAT 1.0.

The results presented in Table 12 and Table 13 indicate there is strong evidence to suggest that respondents who complete the GAT survey after reenlistment do not have significantly greater mean resiliency scores in the Emotional, Social, Family, and Physical (GAT 2.0 only) dimensions. The evidence suggests GAT 1.0 respondents who completed the survey after reenlistment have significantly greater mean resiliency scores for the Spiritual dimension, while there is evidence to suggest the opposite is true for GAT 2.0 respondents. This is particularly noteworthy, as the survey item responses associated with the Spiritual dimension did not change between GAT 1.0 and GAT 2.0.

GAT 1.0 Reenlistment Analysis				
Number of observations				
Before	81,962			
After	265,745			
Total	**347,707**			
Dimension	Mean Score: After	Mean Score: Before	ES	p-value
Emotional	3.821	3.867	0.075	1.000
Social	3.862	3.944	0.121	1.000
Family	4.007	4.053	0.058	1.000
Spiritual	3.791	3.673	0.122	***<0.001***

Table 12 Results of GAT 1.0 Reenlistment Analysis.

GAT 2.0 Reenlistment Analysis				
Number of observations				
Before	10,242			
After	91,894			
Total	**102,136**			
Dimension	Mean Score: After	Mean Score: Before	ES	p-value
Emotional	3.946	4.016	0.122	1.000
Social	3.982	4.068	0.129	1.000
Family	4.165	4.224	0.080	1.000
Spiritual	4.217	4.248	0.039	1.000
Physical	3.543	3.673	0.242	1.000

Table 13 Results of GAT 2.0 Reenlistment Analysis.

3.5.3. MILITARY OCCUPATIONAL SPECIALTY

To determine whether differences in mean dimensional resiliency scores exist among the four MOS groups of Operations (OP), Operations Support (OS), Force Sustainment (FS), and Special (SP), ANOVAs are conducted and effect sizes are reported.

As with discharge characterization and reenlistment analysis, the findings are consistent across both versions of the GAT survey. The results presented in Table 14 and Table 15 indicate that significant differences in mean resiliency scores exist between MOS groups for GAT 1.0 survey respondents across all dimensions. Likewise, the results indicate that significant differences in mean resiliency scores exist among MOS groups for GAT 2.0 respondents across each dimension, including Physical. As with the discharge characterization analysis, we characterize the relative strength of the difference in mean resiliency scores as "small" for both versions of the GAT survey.

GAT 1.0 MOS Analysis

Number of observations	
OP	468,527
OS	179,938
FS	249,720
SP	119,459
Total	**1,017,644**

Dimension	Mean Score: OP	Mean Score: OS	Mean Score: FS	Mean Score: SP	ES	p-value
Emotional	3.841	3.839	3.850	3.879	0.023	***<0.001***
Social	3.951	3.894	3.870	3.947	0.053	***<0.001***
Family	4.059	4.035	4.032	4.079	0.020	***<0.001***
Spiritual	3.765	3.733	3.846	3.880	0.052	***<0.001***

Table 14 Results of GAT 1.0 MOS Group Analysis.

GAT 2.0 MOS Analysis	
Number of observations	
OP	199,468
OS	73,954
FS	96,858
SP	48,971
Total	**419,251**

Dimension	Mean Score: OP	Mean Score: OS	Mean Score: FS	Mean Score: SP	ES	p-value
Emotional	3.941	3.935	3.951	3.981	0.024	***<0.001***
Social	4.022	3.975	3.982	4.036	0.035	***<0.001***
Family	4.162	4.155	4.167	4.190	0.013	***<0.001***
Spiritual	4.188	4.163	4.256	4.279	0.052	***<0.001***
Physical	3.597	3.602	3.584	3.594	0.011	***<0.001***

Table 15 Results of GAT 2.0 MOS Group Analysis.

3.5.4. LOGISTIC REGRESSION

In general, results are consistent across each logistic regression model. Of the predictor variables evaluated—respondent rank, age, gender, MOS group, and dimensional resiliency scores—rank and gender emerge as significant contributors to unfavorable respondent discharge for all four models (utilizing training data set observations). Respondents of lower rank are have a higher probability of discharge under unfavorable circumstances than those of higher rank. Likewise, female respondents are less likely to be discharged under unfavorable circumstances than male respondents. Dimensional resiliency scores did not significantly contribute to unfavorable discharge, with the exception of the Spiritual dimension in Models 1 and 2 (both comprised of GAT 1.0 respondents). While unexpected, this dimensional anomaly is similar to the results seen in the GAT 1.0 reenlistment analysis. Table 16, Table 17, Table 18, and Table 19 summarize the estimated factor coefficient, standard error, and p-value across predictor variables for each logistic regression model evaluated.

Additionally, the dropterm function from the MASS library (W.N. Venables, 2002) in R confirms the significance of the rank and gender predictor variables. This analysis indicates that rank is the most significant factor for Model 1 and Model 3, while gender is the third and second most significant factor for Model 1 and Model 3, respectively. Likewise, gender is the second

most significant factor for Model 2 and third for Model 3. Interestingly, rank is only the fifth most significant factor for both Model 2 and Model 4.

Variable significance is indicated by the estimated factor coefficient. The greater the value of the coefficient in the positive direction, the more the factor contributes to an unfavorable discharge. The greater the value of the coefficient in the negative direction, the less the factor contributes to an unfavorable discharge. For example, in Model 1 (Table 16), the coefficient estimates for PV1 and PV2 indicate respondents of these ranks have a higher probability of discharge under unfavorable conditions, while SPC or CPL respondents have a lower probability of discharge under unfavorable conditions, when compared to the baseline rank of PFC. This holds true for Models 2 and 4 (Table 17 and Table 19) as well. In both cases, the coefficient estimates for CPL (against a baseline of SPC) indicates respondents of this rank have a lower probability of discharge under unfavorable conditions. This makes sense as these soldiers generally display greater maturity and leadership ability.

Model 1				
Type	Variable	Estimate	Standard Error	p−value
	Intercept	2.245	0.153	<0.001
Ordinal	PV1	0.968	0.664	0.145
Ordinal	PV2	1.391	0.067	<0.001
Ordinal	SPC	−1.293	0.045	<0.001
Ordinal	CPL	−2.196	0.253	<0.001
Ordinal	SGT	−1.006	0.073	<0.001
Ordinal	SSG	−2.133	0.135	<0.001
Ordinal	SFC	−3.918	0.282	<0.001
Ordinal	2LT	−0.231	0.309	0.455
Ordinal	1LT	−0.734	0.115	<0.001
Ordinal	CPT	−1.487	0.110	<0.001
Ordinal	MAJ	−2.020	0.212	<0.001
Numeric	Age	−0.669	0.004	<0.001
Binary	Female	−0.769	0.053	<0.001
Nominal	Emotional	−0.116	0.043	0.006
Nominal	Social	−0.027	0.038	0.475
Nominal	Family	−0.033	0.027	0.209
Nominal	Spiritual	0.121	0.030	<0.001
Nominal	OP	−0.320	0.047	<0.001
Nominal	OS	−0.014	0.057	0.012
Nominal	SP	−0.131	0.066	0.049

Table 16 Model 1 (GAT 1.0 respondents in FY 13 and FY 14, all ranks) Logistic Regression Summary.

Model 2				
Type	Variable	Estimate	Standard Error	p−value
	Intercept	0.762	0.213	0.000
Ordinal	CPL	−0.996	0.257	0.000
Numeric	Age	−0.058	0.006	<0.001
Binary	Female	−0.729	0.081	<0.001
Nominal	Emotional	−0.117	0.059	0.046
Nominal	Social	−0.007	0.053	0.902
Nominal	Family	−0.024	0.037	0.518
Nominal	Spiritual	0.097	0.042	0.021
Nominal	OP	−0.368	0.065	<0.001
Nominal	OS	−0.209	0.079	0.009
Nominal	SP	−0.477	0.100	<0.001

Table 17 Model 2 (GAT 1.0 respondents in FY 13 and FY 14, E-4 only) Logistic Regression Summary.

Model 3				
Type	Variable	Estimate	Standard Error	p−value
	Intercept	2.554	0.227	<0.001
Ordinal	PV1	1.489	0.176	<0.001
Ordinal	PV2	0.938	0.109	<0.001
Ordinal	SPC	−1.523	0.061	<0.001
Ordinal	CPL	−2.120	0.293	<0.001
Ordinal	SGT	−1.884	0.099	<0.001
Ordinal	SSG	−2.028	0.181	<0.001
Ordinal	SFC	−4.236	0.429	<0.001
Ordinal	2LT	−0.449	0.430	0.296
Ordinal	1LT	−1.510	0.150	<0.001
Ordinal	CPT	−2.243	0.156	<0.001
Ordinal	MAJ	−3.376	0.429	<0.001
Numeric	Age	−0.061	0.006	<0.001
Binary	Female	−0.769	0.071	<0.001
Nominal	Emotional	−0.149	0.058	0.010
Nominal	Social	0.062	0.050	0.218
Nominal	Family	−0.030	0.035	0.391
Nominal	Spiritual	0.023	0.040	0.561
Nominal	Physical	−0.032	0.043	0.453
Nominal	OP	−0.332	0.063	<0.001
Nominal	OS	−0.111	0.077	0.147
Nominal	SP	−0.121	0.092	0.188

Table 18 Model 3 (GAT 2.0 respondents in FY 14 and FY 15, all ranks) Logistic Regression Summary.

Model 4				
Type	Variable	Estimate	Standard Error	p−value
	Intercept	1.232	0.308	<0.001
Ordinal	CPL	−0.455	0.274	0.097
Numeric	Age	−0.063	0.008	<0.001
Binary	Female	−0.430	0.095	<0.001
Nominal	Emotional	−0.248	0.078	0.001
Nominal	Social	0.078	0.066	0.238
Nominal	Family	0.004	0.048	0.941
Nominal	Spiritual	0.033	0.054	0.543
Nominal	Physical	−0.044	0.057	0.445
Nominal	OP	−0.411	0.086	<0.001
Nominal	OS	−0.124	0.102	0.223
Nominal	SP	−0.244	0.130	0.060

Table 19 Model 4 (GAT 2.0 respondents in FY 14 and FY 15, E-4 only) Logistic Regression Summary.

Analysis also shows a modest predictive ability across each model (Table 20, Table 21, Table 22, and Table 23). In general, model misclassification rates range from 19.3% (Model 3) to 22.3% (Model 2) for the training data sets and 18.7% (Model 3) to 23.2% (Model 2) for the test data sets. Likewise, the area under the receiver operating characteristic (ROC) curve for each model (**Error! Reference source not found.**, Figure 6, Figure 7, Figure 8) ranges from 0.592 (Model 2) to 0.810 (Model 1) for the training data sets and 0.593 (Model 4) to 0.813 (Model 1) for the test data sets. Model 2 and Model 4 are unique in that these models predict only discharges under favorable circumstances.

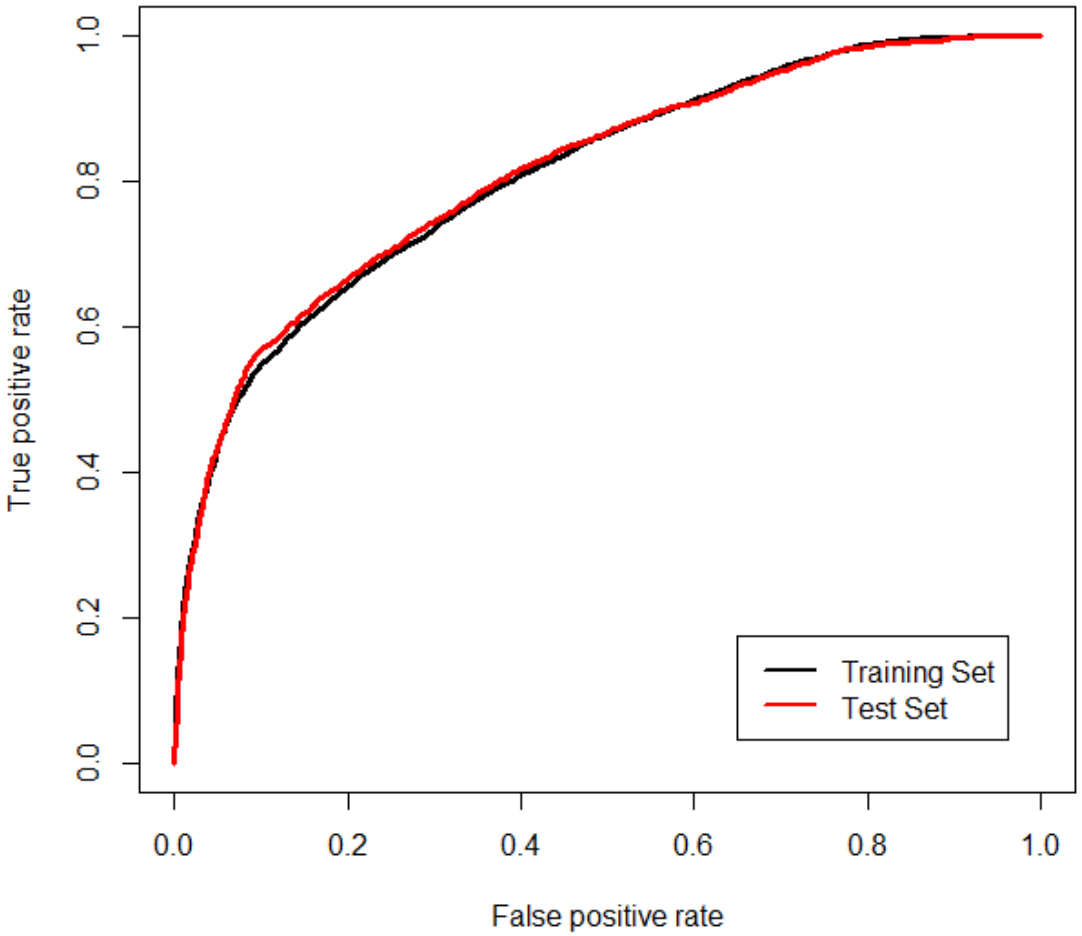

Figure 5 Model 1 ROC Curve.

Model 1							
Training Set				Test Set			
		Predicted				Predicted	
		Favorable	Unfavorable			Favorable	Unfavorable
Actual	Favorable	14855	1342	Actual	Favorable	6396	556
	Unfavorable	3273	3527		Unfavorable	1363	1541
Misclassification rate:		20.1%		Misclassification rate:		19.5%	
Area under the ROC curve:		0.810		Area under the ROC curve:		0.813	

Table 20 Model 1 Confusion Matrices.

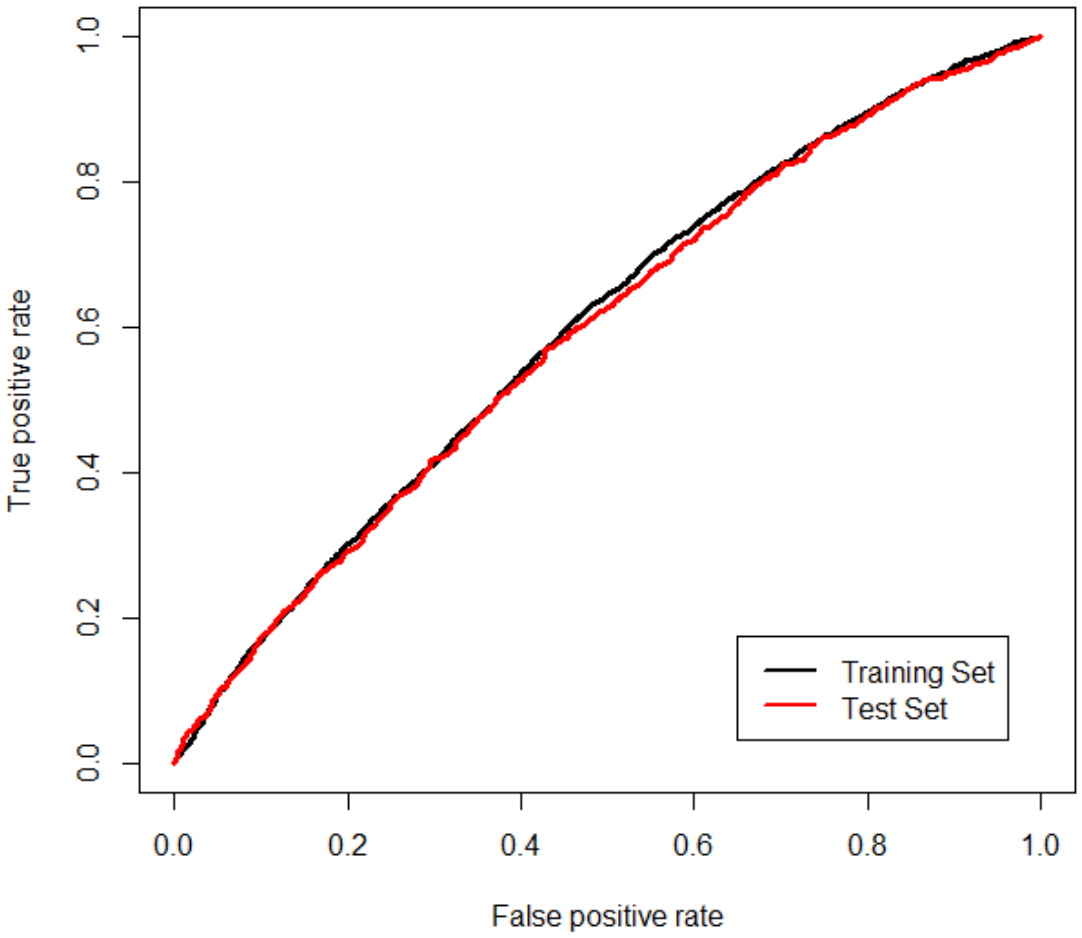

Figure 6 Model 2 ROC Curve.

Model 2							
Training Set				Test Set			
		Predicted				Predicted	
	n = 9958	Favorable	Unfavorable			Favorable	Unfavorable
Actual	Favorable	7734	0	Actual	Favorable	3279	0
	Unfavorable	2224	0		Unfavorable	990	0
Misclassification rate:		22.3%		Misclassification rate:		23.2%	
Area under the ROC curve:		0.600		Area under the ROC curve:		0.593	

Table 21 Model 2 Confusion Matrices.

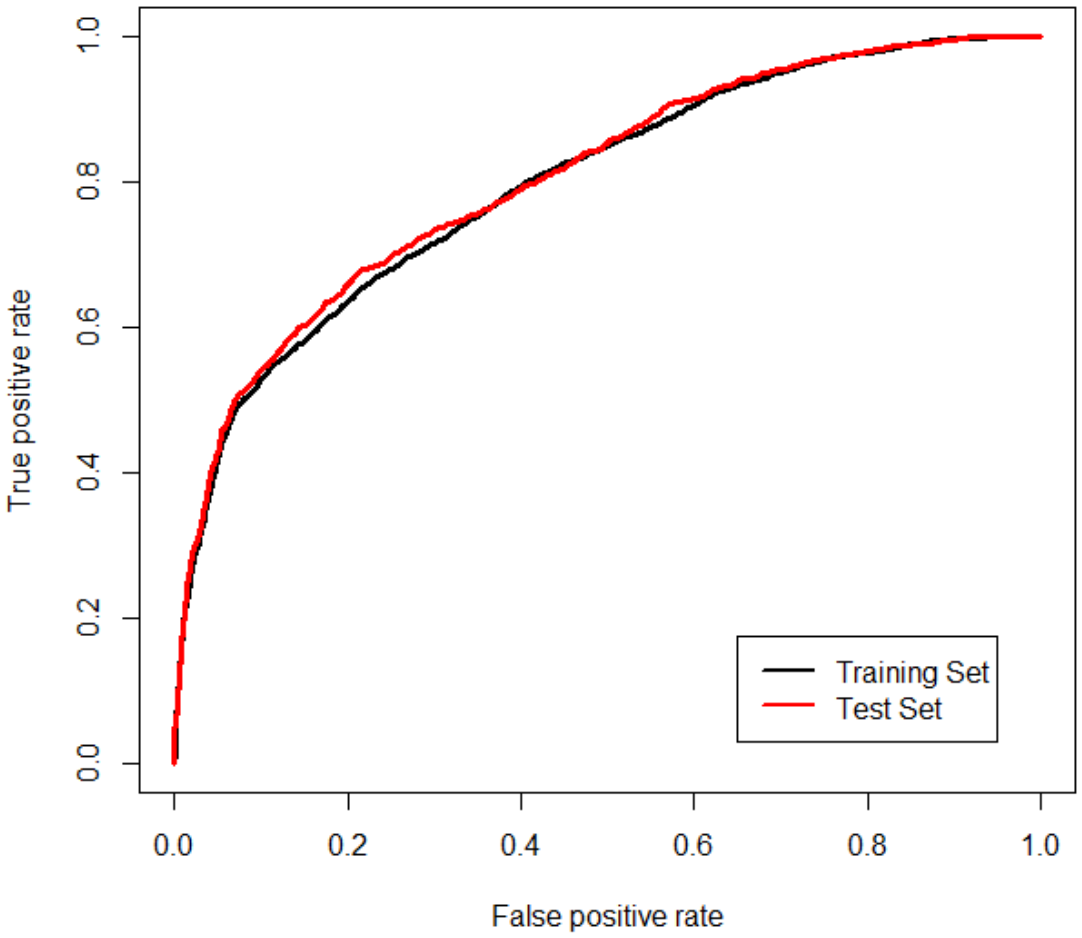

Figure 7 Model 3 ROC Curve.

Model 3							
Training Set				Test Set			
		Predicted				Predicted	
		Favorable	Unfavorable			Favorable	Unfavorable
Actual	Favorable	8727	683	Actual	Favorable	3780	281
	Unfavorable	1829	1776		Unfavorable	762	756
Misclassification rate:		19.3%		Misclassification rate:		18.7%	
Area under the ROC curve:		0.798		Area under the ROC curve:		0.805	

Table 22 Model 3 Confusion Matrices.

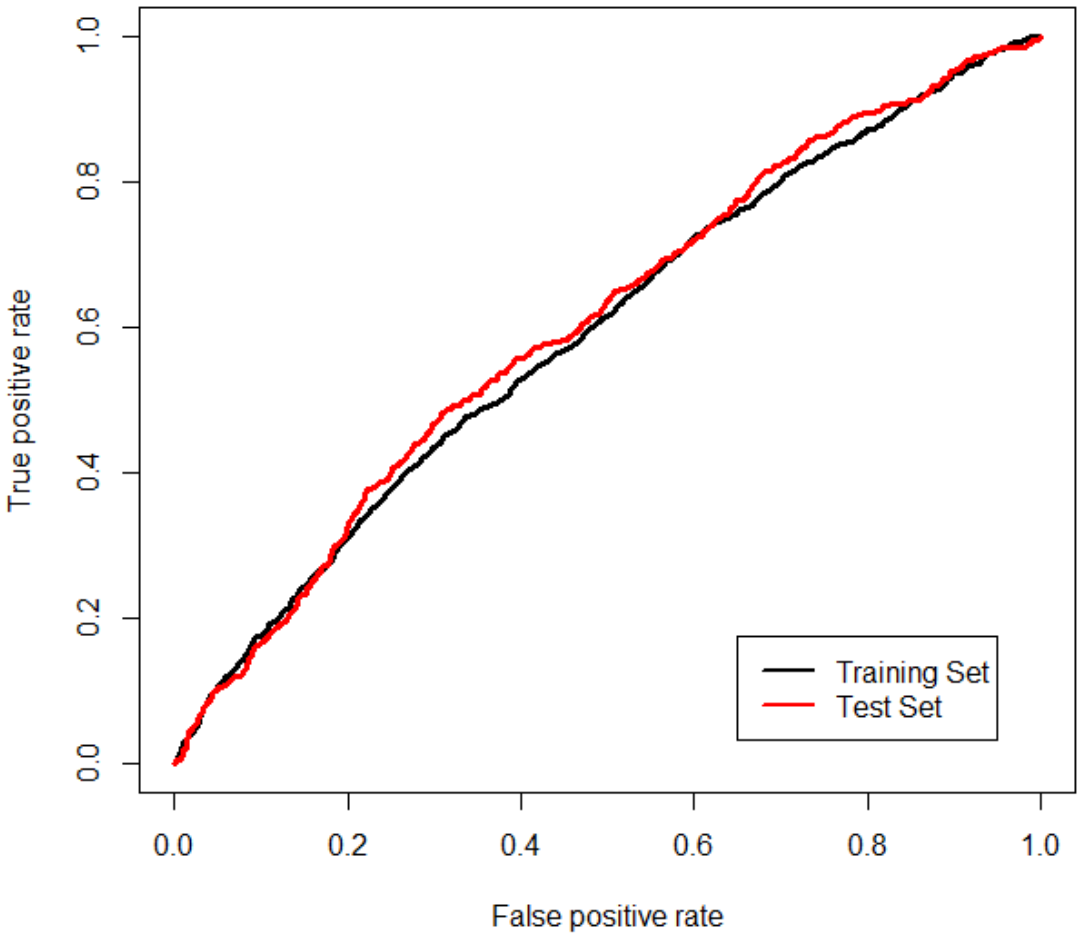

Figure 8 Model 4 ROC Curve.

Model 4							
Training Set				Test Set			
		Predicted				Predicted	
		Favorable	Unfavorable			Favorable	Unfavorable
Actual	Favorable	4803	0	Actual	Favorable	2031	0
	Unfavorable	1338	0		Unfavorable	602	0
Misclassification rate:		21.8%		Misclassification rate:		22.9%	
Area under the ROC curve:		0.592		Area under the ROC curve:		0.604	

Table 23 Model 4 Confusion Matrices.

3.6. RELIABILITY AND VALIDATION

3.6.1. RELIABILITY

As mentioned previously, and according to The Standards for Educational and Psychological Testing, a precondition for instrument validity is instrument reliability (AERA, 2014). We started our research into the validation of the GAT with a thorough analysis of the reliability of the GAT, from GAT 1.0 to GAT 2.0. Eighty-eight questions did not change from the start of the implementation of the GAT in 2009. We ran a two-sample t-test against 500 random observations between each year. Our null hypothesis for this test was that the mean score did not change for each question, year-by-year. Out of the 88 questions, only 40 of them had statistically significant (p-value below 0.05) for the t-test for sequential years and none of those 40 questions held statistical significance for more than two years in a row. The entire results of this test are in Appendix III.

Question GAT1.0	Question GAT2.0	2009 vs. 2010	2010 vs. 2011	2011 vs. 2012	2012 vs. 2013	2013 vs. 2014	2014 vs. 2014	2014 vs. 2015
Q30	Q4778	0.024	0.015	0.054	0.199	0.442	0.471	0.461
Q40	Q4788	0.459	0.830	0.047	0.839	0.941	0.250	0.861
Q42	Q4790	0.586	0.639	0.711	0.656	0.270	0.042	0.919
Q46	Q4794	0.223	0.150	0.039	0.274	0.346	0.698	0.830
Q66	Q4803	0.157	0.003	0.910	0.093	0.165	0.140	0.745
Q67	Q4804	0.693	0.354	0.819	0.918	0.619	0.126	0.537
Q69	Q4805	0.534	0.897	0.004	0.635	0.105	0.799	0.838
Q74	Q4809	0.843	0.926	0.018	0.627	0.921	0.785	0.604
Q79	Q4812	0.323	0.006	0.168	0.549	0.188	0.254	0.855
Q58	Q4890	0.166	0.009	0.125	0.616	0.976	0.000	0.751
Q176	Q4892	0.016	0.000	0.553	0.829	0.784	0.000	0.749
Q93	Q4825	0.849	0.546	0.664	0.735	0.892	0.774	0.660
Q94	Q4826	0.688	0.773	0.049	0.430	0.905	0.350	0.830
Q97	Q4827	0.852	0.432	0.022	0.696	0.480	0.140	0.701
Q98	Q4828	0.499	0.849	0.450	0.183	0.848	0.896	0.399
Q142	Q4839	0.093	0.007	0.122	0.328	0.971	0.518	0.080
Q146	Q4843	0.722	0.137	0.798	0.334	0.825	0.642	0.042
Q147	Q4844	0.536	0.328	0.945	0.512	0.835	0.128	0.032
Q150	Q4847	0.931	0.179	0.505	0.173	0.610	0.132	0.045
Q155	Q4852	0.410	0.014	0.002	0.702	0.661	0.566	0.913
Q156	Q4853	0.728	0.004	0.023	0.407	0.650	0.525	0.851
Q158	Q4855	0.449	0.578	0.031	0.761	0.394	1.000	0.888
Q159	Q4856	0.074	0.727	0.387	0.451	0.582	0.348	0.607
Q160	Q4857	0.702	0.047	0.235	0.633	0.395	0.345	0.426
Q163	Q4860	0.373	0.268	0.003	0.867	0.423	0.290	0.704
Q174	Q4871	0.750	0.037	0.152	0.461	0.547	0.976	0.559
Q177	Q4872	0.786	0.015	0.401	0.625	0.951	0.829	0.197
Q7	Q5139	0.049	0.710	0.242	0.100	0.250	0.695	0.286
Q10	Q5140	0.021	0.596	0.122	0.378	0.341	0.259	0.580
Q139	Q4849	0.005	0.477	0.010	0.309	0.454	0.065	0.790
Q140	Q4850	0.036	0.386	0.054	1.000	0.549	0.588	0.984
Q141	Q4851	0.002	0.571	0.019	0.856	0.700	0.629	0.712
Q181	Q4822	0.084	0.027	0.286	0.854	0.268	0.000	0.843
Q185	Q4823	0.165	0.004	0.587	0.850	0.878	0.593	0.592
Q100	Q4829	0.728	0.021	0.588	0.646	0.288	0.733	0.166
Q106	Q4832	0.079	0.005	0.726	0.474	0.358	0.414	0.336
Q135	Q4887	0.683	0.031	0.161	0.864	0.923	0.057	0.576
Q84	Q4814	0.875	0.459	0.000	0.000	0.734	0.218	0.333
Q86	Q4815	0.999	0.480	0.000	0.000	1.000	0.517	0.314
Q90	Q4816	0.020	0.100	0.000	0.002	0.352	0.914	0.838

Table 24 Questions with Significant Results between Years

From these results, we do not really have evidence to reject the null hypothesis and state that the mean value for the questions over the years has changed between iterations. This lend credence to the reliability of the questions as, if the questions were not reliable, we would expect to see different mean responses between the years. We repeated this experiment and found the same results with a different random set of 500 observations.

In addition to the t-test to prove year-by-year reliability of the GAT, examined how each of the ranks responded to the GAT. The largest discrepancy we found in GAT responses was between the different ranks. We believe that rank encapsulates some of the larger variables when it comes to military resilience, such as age and time in service.

Figure 9 shows the differences in average response over the years over all of the questions form the GAT 1.0 to the GAT 2.0. We see a lower response pattern from the lower ranks, to include the lower warrant and commissioned officer ranks. The response pattern is very closer when the ranks are closer, such as between PFC and PV2. We show all of the response averages and the number of observations in Appendix IV.

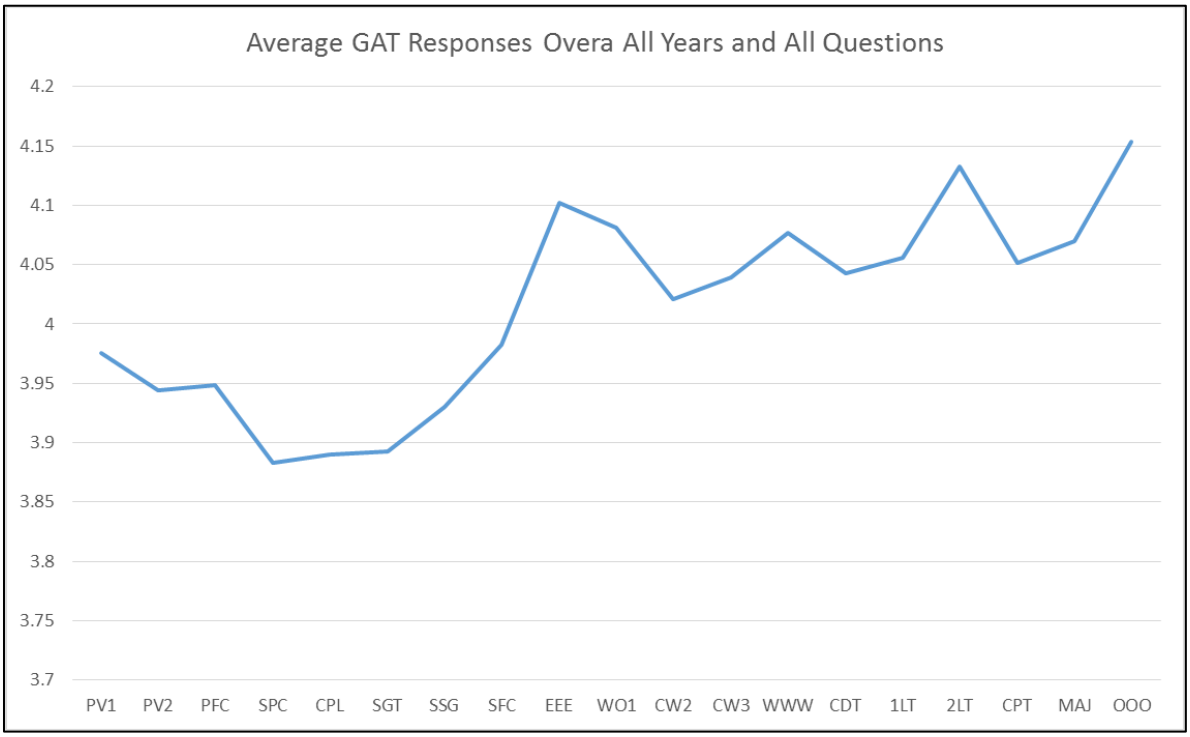

Figure 9 Average GAT Response over the Years

Because rank held a different response pattern, we theorized that there should be high correlation between the years of GAT responses for the ranks and not as much correlation between the different ranks. We give all of the correlations for each rank in Appendix IV and the correlations between ranks are in Appendix V. The findings are that there is very high correlation between the responses for the same ranks and, although there is high correlation for the responses between the ranks, it is not to the level of the correlation seen in the same rank. From year to year, the same rank continues to give the same response to the same questions, lending weight to the reliability of the questions.

3.6.2. VALIDATION

Thus far, the GAT is the only instrument that specifically targets the resilience of the instrument participant. There are other possible comparative measures mandated by the military for each service member that could give an indication of the resilience of the service member, such as the Periodic Health Assessment (PHA), but these are a tangential comparative assessment, at best. This being the case, the most reliable source of validity that we have at our disposal for the GAT is construct validity, or the ability of the instrument to continue to stand the rigors of factor analysis. The work that Wright and Moten have done in previous work were the measure we used for the construct validity of the GAT.

Moten's factor analysis work determined that a seven-factor model was ideal for the GAT 1.0. He labeled those seven factors as Depression, Character, Catastrophizing, Positive Affect, Social, Spiritual, and Negative Affect. We display the structure of this factor analysis in Figure 10 Moten 7 Factor Model of GAT 1.0

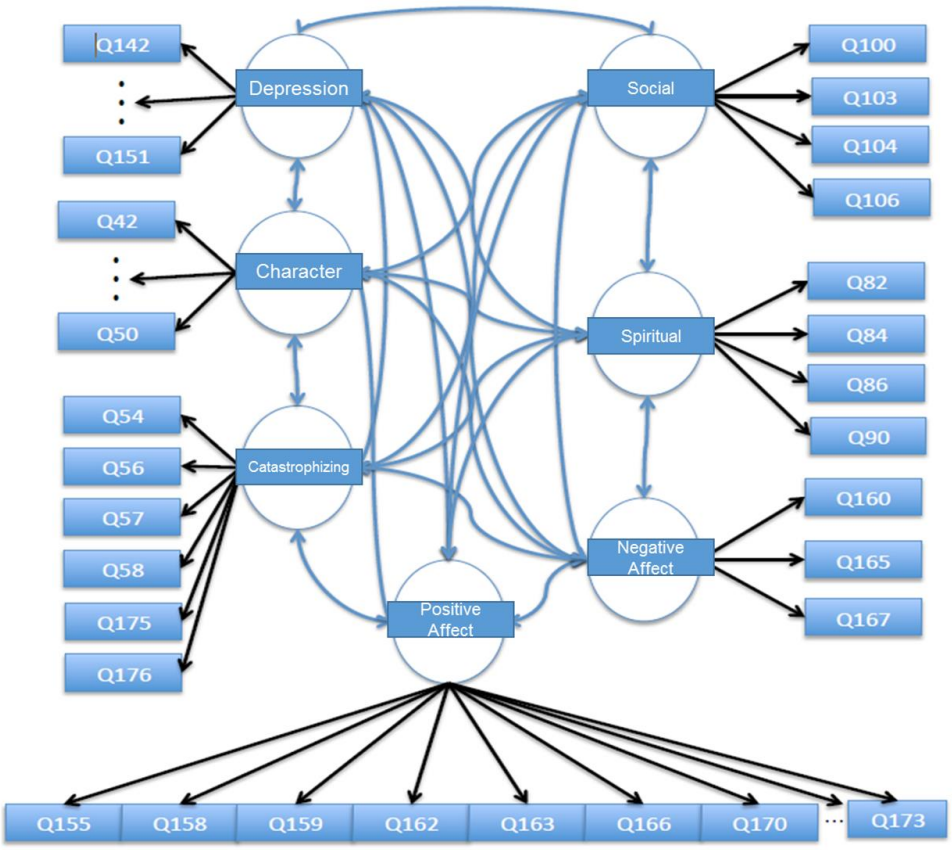

Figure 10 Moten 7 Factor Model of GAT 1.0

As shown earlier, Orndorff continued and expanded upon Moten's previous work, adding in an EFA of the GAT 2.0 and conducting a Confirmatory Factor Analysis on the GAT 2.0. Orndorff concluded that a 10-factor model was ideal, with the inclusion of the GAT 2.0. We contrast Orndorff's results to Moten's results in Table 25.

Moten	Orndorff	GAT 1.0	GAT 2.0
Emotional: Depression	Emotional: Depression	142	4839
Emotional: Depression	Emotional: Depression	143	4840
Emotional: Depression		144	4841
Emotional: Depression		145	4842
Emotional: Depression	Emotional: Depression	146	4843
Emotional: Depression		147	4844
Emotional: Depression	Emotional: Depression	148	4845

Emotional: Depression	Emotional: Depression	149	4846
Emotional: Depression		150	4847
Emotional: Depression	Emotional: Depression	151	4848
Emotional: Character		42	4790
Emotional: Character		43	4791
Emotional: Character		44	4792
Emotional: Character	Emotional: Character	45	4793
Emotional: Character	Emotional: Character	46	4794
Emotional: Character	Emotional: Character	47	4795
Emotional: Character	Emotional: Character	48	4796
Emotional: Character		49	
Emotional: Character	Emotional: Character	50	4798
Emotional: Positive Affect	Emotional: Positive Affect	155	4852
Emotional: Positive Affect	Emotional: Positive Affect	158	4855
Emotional: Positive Affect	Emotional: Positive Affect	159	4856
Emotional: Positive Affect	Emotional: Positive Affect	162	4859
Emotional: Positive Affect	Emotional: Positive Affect	163	4860
Emotional: Positive Affect	Emotional: Positive Affect	166	4864
Emotional: Positive Affect		170	
Emotional: Positive Affect	Emotional: Positive Affect	171	4869
Emotional: Positive Affect	Emotional: Positive Affect	172	4862
Emotional: Positive Affect	Emotional: Positive Affect	173	4870
Emotional: Negative Affect	Emotional: Negative Affect	160	4857
Emotional: Negative Affect	Emotional: Negative Affect	165	4863
Emotional: Negative Affect	Emotional: Negative Affect	167	4865
Emotional: Catastrophizing		54	
Emotional: Catastrophizing		55	
Emotional: Catastrophizing		56	
Emotional: Catastrophizing		57	
Emotional: Catastrophizing		58	4890

Emotional: Catastrophizing		175	
Emotional: Catastrophizing		176	4892
Social	Performance	100	4829
Social	Performance	103	4830
Social	Performance	104	4831
Social	Performance	106	4832
Spiritual	Spiritual	82	4813
Spiritual	Spiritual	84	4814
Spiritual	Spiritual	86	4815
Spiritual	Spiritual	90	4816
	Nutrition		4696
	Nutrition		4697
	Nutrition		4698
	Nutrition		4699
	Activity		4713
	Activity		4714
	Activity		4758
	Health		4903
	Health		4904
	Health		4905
	Sleep		4721
	Sleep		4722
	Sleep		4723

Table 25 Comparison of Moten and Orndorff Factor Analysis Results.

There are some key items of significance between the two researcher's results. First, Orndorff had a 10-factor model, but only six of those factors corresponded to questions that were in GAT 1.0. Second, the questions that are in the factors presented by Moten are the same questions that retained from GAT 1.0 to GAT 2.0. The only difference between the factor models is with Orndorff's lack of the Catastrophizing factor, most likely because the majority of the Catastrophizing questions did not stay in the GAT from the transition from 1.0 to 2.0. Orndorff named his Social factor as "Performance," but that factor uses the same questions as the Social factor in Moten's analysis thus we conclude that it is the same factor.

SECTION 4. CONCLUSION

4.1. DEPLOYMENT RESEARCH

The extent to which we can detect changes in average GAT responses across deployments is real and detectable – but tiny. If GAT measures resilience, then we are seeing about as many soldiers gain resilience as lose it over the course of a deployment. The proportions depend on rank group, length of deployment, and gender – but, again, these differences, while statistically significant – not attributable to randomness brought about by sampling variation – they are not big enough to allow us to make useful policy decisions.

4.1. CFA RESEARCH

4.1.1. CONCLUSIONS

The model resulting from the initial exploratory factor analysis conducted using GAT 1.0 do not summarize GAT 2.0 results well. From the beginning, the number of question deletions during the transition from GAT 1.0 to GAT 2.0 resulted in removal of the factor "catastrophizing" from the GAT 2.0 analysis. Additionally, our findings confirm that a different factor pattern and indicator-factor relationship is evident in GAT 2.0. Utilizing the subscales and indicators common between the two versions of the GAT, we determined a seven-factor model best accounts for the variation and covariation among 28 significant indicators. The seven factors included character; trust; excitement; depression; learning; stress; and performance.

An analysis of the 187 question GAT 2.0 survey determined that a ten-factor model best represents the GAT 2.0 survey data. The model resulted in ten common factors: positive affect, depression, character, spiritual, performance, nutrition, negative affect, activity, health, and sleep. Positive affect, depression, character, spiritual, and negative affect produced similar indicator-factor loadings in the GAT 1.0 EFA; however only positive affect included the same indicators in GAT 2.0 as the GAT 1.0 EFA. The EFA of GAT 2.0 produced five new common factors with four relating to the physical scoring section of GAT 2.0.

Overall, we believe the question modifications, deletions, and additions during the transition from GAT 1.0 to GAT 2.0 significantly alter the survey in totality. The underlying factor

constructs and indicator-factor loading patterns in GAT 2.0 are considerably different than those of GAT 1.0. Due to this inconsistency between the two versions of the surveys, we believe measures of resiliency between each survey are different. In other words, analysts should not compare a measured level of resiliency using GAT 1.0 to a resiliency level measured using GAT 2.0.

4.1.2. RECOMMENDATIONS

Our first recommendation is that the CSF2 program office implement a shorter version of the GAT. Providing respondents with a shorter resiliency survey will result in more meaningful test results by limiting invariant response patterns normally seen during longer surveys. Additionally, the shorter survey will lessen the chance of survey fatigue, where respondents spend less time considering the most appropriate answer and provide inaccurate responses. Our findings provide evidence that 45 indicators and 10 common factors are effective in describing the variance between responses.

Secondly, we believe the modifications during the transition from GAT 1.0 to GAT 2.0 resulted in a new measurement of resiliency. We believe the two versions of the GAT do not provide the same metric and researchers should refrain from collectively in trend analysis of resiliency levels between the two instruments. One solution to resolve the inconsistencies between the two GAT versions is to ensure the seven significant indicators identified in Moten's analysis, which were deleted in GAT 2.0, be reinserted into GAT 2.0. This should result in comparable surveys, which could provide equivalent measures of resiliency to use in trend analysis.

Lastly, we believe our findings should become a baseline measurement tool for resiliency in the United States Army. At this time, the GAT measures resiliency by comparing an individual's response to the mean scores from recent GAT surveys. Respondents ranking in the lower ten percent of the comparison group are determined to be less resilient. Since the factor analysis used observations across all GAT 2.0 observations, the factor model provides a measurement tool, which reflects the Army-wide population. Measuring resiliency using the factor model ensures individual resiliency measurement strategies for the population, not a small comparison group, providing a better metric to determine specified individual resiliency training.

4.1.3. FOLLOW-ON STUDIES

There currently are four versions of the GAT survey, including one for Basic Training, one for active, guard, and reserve soldiers, one for family members, and one for Army civilians (P.B. Lester, 2015). The intended audience for this survey is a heterogeneous population and the administrators believe measurement properties to be equivalent between subgroups of the population. A follow-on study would test to determine if the GAT survey produces different results across groups (e.g. between gender groups, or between ranks or military component). If the GAT is truly unbiased then each significant indicator should measure comparably between all subgroups in the Army.

We spoke briefly about using the factor model to produce a population-wide measure of resiliency. For the CSF2 office to implement this metric and to effectively score individual resiliency scores there is a need for a new scoring algorithm. This algorithm could use the factor model found during our research as a baseline model against which individual GAT surveys are measured. Correct implementation of a new scoring algorithm provides the CSF2 office additional metrics to guide individualized resiliency training modules when scores deviate from the population-wide baseline score.

4.2. PERSONNEL TRENDS ANALYSIS

4.2.1. CONCLUSION

The findings of this thesis add to the existing body of evidence that the GAT is a useful instrument for assessing and analyzing the resiliency and psychological strengths of soldiers, their families, and Department of the Army (DA) civilians. As the only instrument currently used by the Army, continued analysis and improvement of the GAT is of particular importance to building and maintaining a ready and resilient force. In addition, these findings reinforce the notion that low-ranking, male soldiers tend to be the population with the highest probability of discharge under unfavorable conditions.

There is evidence to suggest that soldiers discharged under favorable conditions have mean dimensional resiliency scores equal to soldiers discharged under unfavorable circumstances. GAT respondents discharged favorably tend to have higher mean dimensional resiliency scores across all dimensions of strength, for both versions of the GAT survey.

In general, there is not enough evidence that soldiers who complete the GAT survey prior to reenlisting have mean dimensional resiliency scores equal to soldiers who complete the GAT survey after reenlisting. Respondents completing the GAT survey before and after reenlistment tend to have similar mean dimensional resiliency scores across the family, emotional, and social dimensions of strength for the GAT 1.0 survey, and across all dimensions of strength for the GAT 2.0 survey. There is evidence to suggest respondents completing the GAT 1.0 after reenlisting tend to have higher mean resiliency scores for the Spiritual dimension of strength.

There is evidence to suggest that differences exist between the four MOS groups of Operations, Operations Support, Force Sustainment, and Special. These differences exist across all dimensions of strength for both versions of the GAT survey.

Among the factors of rank, gender, age, MOS group, and mean resiliency scores for each dimension of strength, the factors of rank, gender, and mean spiritual dimension resiliency score emerged as significant contributors to unfavorable soldier discharge for the GAT 1.0 survey. For the GAT 2.0 survey, only the factors of rank and gender emerged as significant contributors to unfavorable soldier discharge.

4.2.2. RECOMMENDATIONS

In order to improve upon the GAT survey as a tool to assess resilience and psychological health (R/PH) in soldiers, their families, and DA civilians, data pertaining to survey respondents should be expanded through additional data sets residing in the PDE. Data sets that include information and characteristics relating to medical history, deployment history, promotion opportunities, and waivers related to service entrance and continued service stand to greatly enhance the understanding of the factors and drivers that influence a respondent's dimensional resiliency. Likewise, this additional information further improves the ability to identify factors that contribute to lower resiliency and other adverse outcomes, and give decision makers a better understanding of where to focus policy and resiliency efforts.

A more targeted analysis of the survey items associated with the spiritual dimension will allow for a better understanding of the differences that appear to exist between the GAT 1.0 and GAT 2.0 surveys, and will inform GAT designers of the survey's ability to assess the Spiritual dimension as intended. Likewise, a more robust analysis of the differences that appear to exist

between MOS groups may allow CSF2 program managers to determine the necessity of targeted individual, unit, or institutional resiliency training by MOS or MOS group.

4.3. RELIABILITY AND VALIDITY

4.3.1. RELIABILITY CONCLUSION

The research this year has built confidence in the reliability of the GAT, even with the changing format over the years. The average scores for the different identified factors and various demographics stay consistent from year to year, even if there is a statistical difference in the scores between demographic groups.

4.3.2. VALIDITY CONCLUSION

The research conducted by Moten and Orndorff show very similar factor structures for the GAT 1.0 and 2.0. Even with the changes to the GAT and the additions of the physical dimension to the GAT, the factor structure has maintained about the same consistency. The exception is the loss of the catastrophizing dimension because of the reduction of factor loading questions between GAT 1.0 and GAT 2.0. We are confident that these are the factors tested by the GAT 2.0 and if the subject matter experts label these factors as resilience measures than they are, in effect, measures of the resilience of the GAT participant.

There is some consternation that is raised by the research done recently by Vie et. al. (Loryana L. Vie, 2014). This research team came up with a different factor structure for the GAT than Moten and Orndorff. However, they used a different method than either Moten or Orndorff, which could explain the discrepancy in factor structure between the two studies.

4.3.3. RECOMMENDATIONS

There should be continued research into the factor structure of the GAT. However, even without future research, it is clear that the score for the five factors that are being output for the ingestion of the user (Emotional, Social, Spiritual, Family, and Physical resilience) are but a small portion of the full picture of resilience. In addition, an overall average score of the five elements is output for the user, giving an overall “resilience” score. It is unsure if these five factors are

heterogeneous enough to be added together to form one score and this overall score could be sending an incorrect picture to the participant.

The tech report conducted by Masotti et. al. in 2014 (Edward M. Masotti, 2014) recommended a different method of reporting results to GAT participants. This may not be the ideal method for reporting, but the current method of giving average scores using factors that may not be heterogeneous is most likely not the correct method for portraying results to the GAT. GAT research teams must continue to investigate how to report the results of the GAT.

There is also the possibility of either a reduction in the number of questions in future iterations of the GAT because of a loss of publishing rights or additions of future questions. Prior to the implementation of new questions to the GAT or reductions of questions, the new format for the GAT should be tested on a sample of likely GAT participants to measure the factor structure and continued validity. Previous editions of the GAT have had minimal testing prior to implementation, which has led to large and deserved criticism of the GAT and CSF as a whole.

APPENDIX I RESULTS OF FACTOR ANALYSIS BY SHREIER ET AL.

Figure

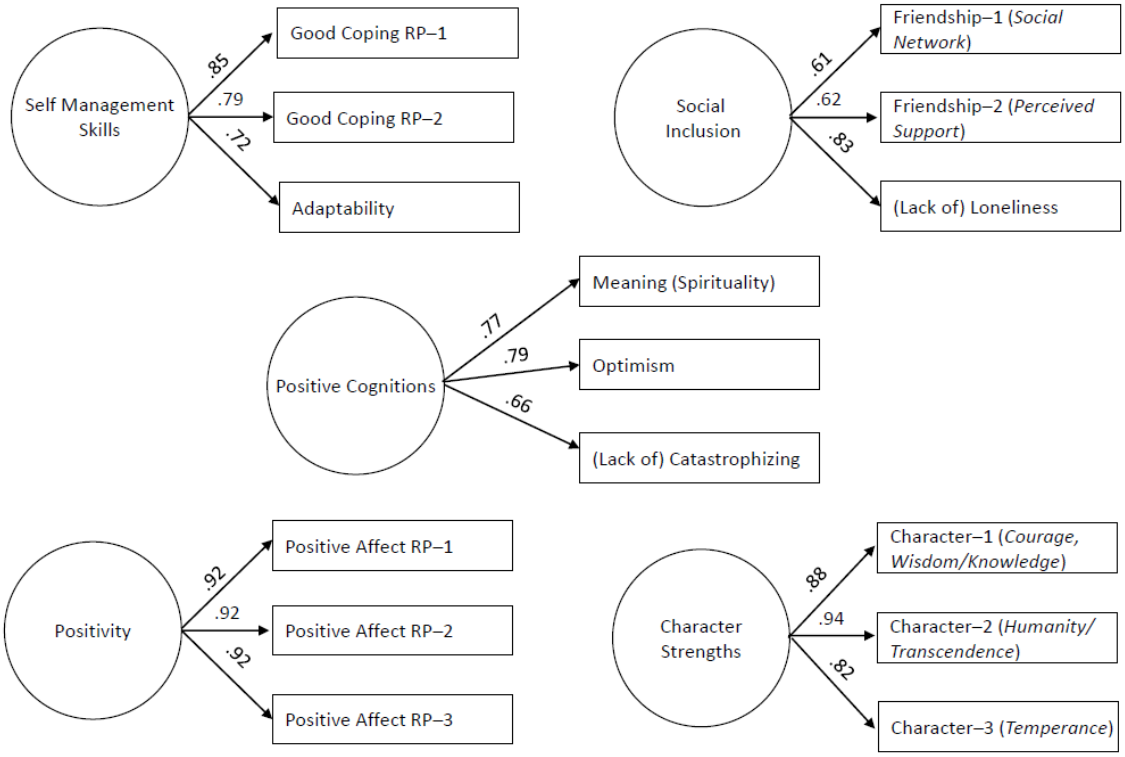

Figure 1. Five-factor confirmatory measurement model of GAT psychological strengths and assets (Sample 4, N = 10,000).

Note. Factor loadings are standardized and significance levels were determined by critical ratios on unstandardized coefficients. For purposes of clarity, error variances for the manifest variables are not shown.

APPENDIX II DEPLOYMENT ANALYSIS

In this section we give, for completeness, the results of the regression analyses, and the percentage changes, for the three dimensions other than Emotional.

Term	Estimate	SE	t-value	p-value
Intercept	–0.089	0.00832	–10.7	0
Enlisted Junior	0			
Enlisted Senior	0.108	0.00459	23.6	0
Officer Junior	0.0798	0.00671	11.9	0
Officer Senior	0.105	0.00856	12.3	0
Warrant Junior	0.0939	0.0115	8.16	0
Warrant Senior	0.102	0.0262	3.89	0.000102
Female	0			
Male	0.00821	0.00669	1.23	0.219
Duration	0.0000554	0.0000195	2.85	0.00443

Table A26 Regression results for change in Family GAT score

Table A2:

Term	Estimate	SE	t-value	p-value
Intercept	–0.106	0.00635	–16.6	0
Enlisted Junior	0			
Enlisted Senior	0.0847	0.00350	24.2	0
Officer Junior	0.0840	0.00508	16.5	0
Officer Senior	0.113	0.00658	17.1	0
Warrant Junior	0.0655	0.00886	7.39	0
Warrant Senior	0.762	0.0202	3.76	0.000102
Female	0			
Male	0.00881	0.00510	1.73	0.084
Duration	0.0000147	0.0000149	0.989	0.323

Table A27 Regression results for change in Social GAT score

Term	Estimate	SE	t-value	p-value
Intercept	0.027	0.00933	2.91	.00360
Enlisted Junior	0			
Enlisted Senior	0.103	0.00514	20.0	0
Officer Junior	0.0747	0.00747	10.0	0
Officer Senior	0.0938	0.00966	9.70	0
Warrant Junior	0.0980	0.013	7.53	0
Warrant Senior	0.116	0.0297	3.91	0.0000923
Female	0			
Male	0.061	0.00749	8.15	0
Duration	0.000332	0.0000218	15.2	0

Table A28 Regression results for Change in Spiritual GAT Score

	Junior Females	Senior Females	Junior Males	Senior Males
Decreased	44.9	39.9	42.7	37.5
Unchanged	14.6	15.6	18.0	19.7
Increased	40.5	44.6	39.3	42.8

Table A29 Proportion of changes of sign in Family dimension, by gender and seniority

	Junior Females	Senior Females	Junior Males	Senior Males
Decreased	50.0	44.7	49.1	44.4
Unchanged	8.9	9.1	9.2	10.0
Increased	41.2	46.2	41.8	45.6

Table A30 Proportion of changes of sign in Social dimension, by gender and seniority

	Junior Females	Senior Females	Junior Males	Senior Males
Decreased	33.0	30.0	32.3	27.7
Unchanged	20.1	22.6	19.2	20.8
Increased	46.9	47.4	48.5	51.5

Table A31 Proportion of changes of sign in Spiritual dimension, by gender and seniority

APPENDIX III RESULTS OF THE T-TEST BETWEEN YEARS

Question GAT1.0	Question GAT2.0	2009 vs. 2010	2010 vs. 2011	2011 vs. 2012	2012 vs. 2013	2013 vs. 2014	2014 vs. 2014	2014 vs. 2015
Q30	Q4778	0.024	0.015	0.054	0.199	0.442	0.471	0.461
Q31	Q4779	0.784	0.312	0.596	0.850	0.637	0.309	0.258
Q32	Q4780	0.840	0.379	0.468	0.244	0.326	0.930	0.954
Q33	Q4781	0.563	0.353	0.273	0.680	0.390	0.851	0.890
Q34	Q4782	0.948	0.151	0.204	0.409	0.939	0.197	0.504
Q35	Q4783	0.618	0.244	0.107	0.505	0.859	0.739	0.163
Q37	Q4785	0.537	0.745	0.951	0.712	0.659	0.354	0.818
Q38	Q4786	0.408	0.499	0.298	1.000	0.933	0.902	0.332
Q40	Q4788	0.459	0.830	0.047	0.839	0.941	0.250	0.861
Q42	Q4790	0.586	0.639	0.711	0.656	0.270	0.042	0.919
Q43	Q4791	0.640	0.876	0.142	0.610	0.630	0.296	0.537
Q44	Q4792	0.113	0.348	0.056	0.081	0.940	0.268	0.664
Q45	Q4793	0.239	0.381	0.096	0.387	0.603	0.793	0.973
Q46	Q4794	0.223	0.150	0.039	0.274	0.346	0.698	0.830
Q47	Q4795	0.466	0.178	0.167	0.495	0.474	0.239	0.243
Q48	Q4796	0.702	0.934	0.653	0.814	0.500	0.853	0.778
Q50	Q4798	0.588	0.500	0.250	0.807	0.893	0.826	0.809
Q52	Q4800	0.786	0.466	0.366	0.734	0.475	0.764	0.785
Q64	Q4802	0.355	0.568	0.198	0.945	0.556	0.398	0.906
Q66	Q4803	0.157	0.003	0.910	0.093	0.165	0.140	0.745
Q67	Q4804	0.693	0.354	0.819	0.918	0.619	0.126	0.537
Q69	Q4805	0.534	0.897	0.004	0.635	0.105	0.799	0.838
Q70	Q4806	0.537	0.390	0.126	0.740	0.848	0.806	0.689
Q71	Q4807	0.506	0.301	0.404	0.824	0.455	0.920	0.550
Q72	Q4808	0.424	0.449	0.420	0.811	0.650	0.780	0.182
Q74	Q4809	0.843	0.926	0.018	0.627	0.921	0.785	0.604
Q76	Q4810	0.404	0.335	0.212	0.690	0.284	0.617	0.146
Q78	Q4811	0.913	0.637	0.527	0.588	0.841	0.767	0.599
Q79	Q4812	0.323	0.006	0.168	0.549	0.188	0.254	0.855
Q58	Q4890	0.166	0.009	0.125	0.616	0.976	0.000	0.751
Q176	Q4892	0.016	0.000	0.553	0.829	0.784	0.000	0.749
Q93	Q4825	0.849	0.546	0.664	0.735	0.892	0.774	0.660
Q94	Q4826	0.688	0.773	0.049	0.430	0.905	0.350	0.830
Q97	Q4827	0.852	0.432	0.022	0.696	0.480	0.140	0.701
Q98	Q4828	0.499	0.849	0.450	0.183	0.848	0.896	0.399

Q142	Q4839	0.093	0.007	0.122	0.328	0.971	0.518	0.080
Q143	Q4840	0.770	0.086	0.104	0.436	0.250	0.539	0.196
Q144	Q4841	0.876	0.221	0.648	0.218	0.748	1.000	0.165
Q145	Q4842	0.789	0.192	0.789	0.399	0.334	0.354	0.095
Q146	Q4843	0.722	0.137	0.798	0.334	0.825	0.642	0.042
Q147	Q4844	0.536	0.328	0.945	0.512	0.835	0.128	0.032
Q148	Q4845	0.097	0.066	0.191	0.955	0.348	0.375	0.477
Q149	Q4846	0.838	0.604	0.197	0.662	0.777	0.106	0.071
Q150	Q4847	0.931	0.179	0.505	0.173	0.610	0.132	0.045
Q151	Q4848	0.365	0.128	0.681	0.210	0.784	0.691	0.269
Q155	Q4852	0.410	0.014	0.002	0.702	0.661	0.566	0.913
Q156	Q4853	0.728	0.004	0.023	0.407	0.650	0.525	0.851
Q157	Q4854	0.552	0.284	0.210	0.603	0.641	1.000	0.721
Q158	Q4855	0.449	0.578	0.031	0.761	0.394	1.000	0.888
Q159	Q4856	0.074	0.727	0.387	0.451	0.582	0.348	0.607
Q160	Q4857	0.702	0.047	0.235	0.633	0.395	0.345	0.426
Q172	Q4862	0.638	0.057	0.074	0.964	0.210	0.889	0.376
Q161	Q4858	0.759	0.072	0.180	0.594	0.916	0.702	0.115
Q162	Q4859	0.344	0.589	0.215	0.831	0.620	0.859	0.925
Q163	Q4860	0.373	0.268	0.003	0.867	0.423	0.290	0.704
Q165	Q4863	0.402	0.829	0.223	0.881	0.881	0.656	0.645
Q166	Q4864	0.585	0.371	0.055	0.508	0.805	1.000	0.247
Q167	Q4865	0.584	0.055	0.206	0.972	1.000	0.619	0.115
Q169	Q4867	0.950	0.058	0.165	0.773	0.973	0.156	0.205
Q171	Q4869	0.185	0.718	0.430	0.821	0.424	0.527	0.077
Q173	Q4870	0.824	0.292	0.488	0.847	0.098	0.450	0.098
Q174	Q4871	0.750	0.037	0.152	0.461	0.547	0.976	0.559
Q177	Q4872	0.786	0.015	0.401	0.625	0.951	0.829	0.197
Q7	Q5139	0.049	0.710	0.242	0.100	0.250	0.695	0.286
Q10	Q5140	0.021	0.596	0.122	0.378	0.341	0.259	0.580
Q139	Q4849	0.005	0.477	0.010	0.309	0.454	0.065	0.790
Q140	Q4850	0.036	0.386	0.054	1.000	0.549	0.588	0.984
Q141	Q4851	0.002	0.571	0.019	0.856	0.700	0.629	0.712
Q181	Q4822	0.084	0.027	0.286	0.854	0.268	0.000	0.843
Q185	Q4823	0.165	0.004	0.587	0.850	0.878	0.593	0.592
Q187	Q4824	0.537	0.102	0.396	0.519	0.301	0.434	0.369
Q100	Q4829	0.728	0.021	0.588	0.646	0.288	0.733	0.166
Q104	Q4831	0.387	0.239	0.527	0.799	0.261	0.868	0.936
Q103	Q4830	0.796	0.059	0.177	0.652	0.692	0.981	0.919
Q106	Q4832	0.079	0.005	0.726	0.474	0.358	0.414	0.336

Q119	Q4836	0.776	0.687	0.568	0.061	0.903	1.000	0.804
Q113	Q4833	0.752	0.341	0.855	0.565	0.386	0.073	0.556
Q124	Q4837	0.300	0.286	0.757	0.120	0.225	0.363	0.898
Q117	Q4835	0.498	0.356	0.600	0.905	0.069	0.274	0.945
Q125	Q4838	0.311	0.733	0.192	0.283	0.728	0.525	0.373
Q128	Q4884	0.622	0.789	0.711	0.439	0.774	0.358	1.000
Q131	Q4885	0.865	0.469	0.485	0.464	0.782	0.554	0.648
Q132	Q4886	0.198	0.705	0.672	0.814	0.589	0.890	0.683
Q135	Q4887	0.683	0.031	0.161	0.864	0.923	0.057	0.576
Q84	Q4814	0.875	0.459	0.000	0.000	0.734	0.218	0.333
Q86	Q4815	0.999	0.480	0.000	0.000	1.000	0.517	0.314
Q90	Q4816	0.020	0.100	0.000	0.002	0.352	0.914	0.838

APPENDIX IV CORRELATION BETWEEN YEARS FOR SAME RANK

Correlation between Question Responses and Years for PV1								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999969	0.999962	0.999932	0.999869	0.99992	0.999942	0.999866
2010		1	0.999999	0.999991	0.999738	0.999982	0.999985	0.999955
2011			1	0.999993	0.999727	0.999984	0.999984	0.999958
2012				1	0.999663	0.999994	0.999989	0.99998
2013					1	0.999651	0.999704	0.999546
2014						1	0.999993	0.999988
2014G2							1	0.999982
2015G2								1

Correlation between Question Responses and Years for PV2								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999997	0.999995	0.99999	0.999985	0.999987	0.999984	0.999983
2010		1	0.999999	0.999995	0.99999	0.99999	0.999985	0.999983
2011			1	0.999996	0.99999	0.99999	0.999985	0.999983
2012				1	0.999998	0.999998	0.999992	0.999991
2013					1	0.999998	0.999992	0.999992
2014						1	0.999994	0.999994
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for PFC								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999998	0.999996	0.999994	0.999987	0.999987	0.999983	0.999982
2010		1	0.999999	0.999997	0.99999	0.99999	0.999985	0.999984
2011			1	0.999998	0.999991	0.99999	0.999985	0.999983
2012				1	0.999997	0.999997	0.999992	0.999991
2013					1	1	0.999996	0.999995
2014						1	0.999995	0.999995
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for SPC								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999999	0.999998	0.999995	0.999988	0.999987	0.999983	0.999982
2010		1	0.999999	0.999996	0.999989	0.999989	0.999983	0.999982
2011			1	0.999998	0.999991	0.99999	0.999984	0.999982
2012				1	0.999997	0.999997	0.999991	0.99999
2013					1	1	0.999995	0.999994
2014						1	0.999995	0.999995
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for CPL								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999998	0.999994	0.999991	0.999984	0.999984	0.99998	0.999978
2010		1	0.999998	0.999992	0.999986	0.999984	0.99998	0.999979
2011			1	0.999992	0.999985	0.999984	0.999978	0.999976
2012				1	0.999996	0.999995	0.999991	0.99999
2013					1	0.999997	0.999994	0.999993
2014						1	0.999994	0.999993
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for SGT								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999999	0.999998	0.999996	0.999988	0.999987	0.999983	0.999982
2010		1	0.999999	0.999996	0.999989	0.999988	0.999984	0.999983
2011			1	0.999998	0.99999	0.99999	0.999983	0.999982
2012				1	0.999997	0.999997	0.999992	0.999991
2013					1	1	0.999995	0.999995
2014						1	0.999995	0.999995
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for SSG								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999999	0.999998	0.999995	0.999988	0.999988	0.999984	0.999983
2010		1	0.999999	0.999996	0.99999	0.999989	0.999985	0.999984
2011			1	0.999997	0.999991	0.999991	0.999985	0.999984
2012				1	0.999998	0.999998	0.999993	0.999992
2013					1	1	0.999995	0.999995
2014						1	0.999995	0.999995
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for SFC								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999999	0.999998	0.999995	0.999988	0.999988	0.999985	0.999984
2010		1	0.999999	0.999997	0.99999	0.999991	0.999986	0.999986
2011			1	0.999998	0.999992	0.999992	0.999986	0.999985
2012				1	0.999998	0.999998	0.999993	0.999992
2013					1	1	0.999996	0.999995
2014						1	0.999995	0.999995
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for EEE								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999999	0.999997	0.999993	0.999987	0.999987	0.999984	0.999983
2010		1	0.999999	0.999996	0.999991	0.999991	0.999987	0.999986
2011			1	0.999998	0.999992	0.999992	0.999987	0.999986
2012				1	0.999998	0.999998	0.999993	0.999992
2013					1	1	0.999995	0.999995
2014						1	0.999995	0.999995
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for WO1								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999995	0.999992	0.999992	0.999985	0.999984	0.999981	0.99998
2010		1	0.999998	0.999995	0.999989	0.999988	0.999986	0.999985
2011			1	0.999995	0.99999	0.999989	0.999986	0.999985
2012				1	0.999995	0.999994	0.99999	0.999991
2013					1	0.999999	0.999995	0.999995
2014						1	0.999995	0.999995
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for CW2								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999998	0.999996	0.999994	0.999988	0.999989	0.999985	0.999985
2010		1	0.999998	0.999995	0.999988	0.999989	0.999983	0.999983
2011			1	0.999997	0.999992	0.999993	0.999986	0.999985
2012				1	0.999996	0.999997	0.999991	0.99999
2013					1	0.999999	0.999996	0.999996
2014						1	0.999995	0.999995
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for CW3								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999997	0.999996	0.999992	0.999988	0.999988	0.999986	0.999985
2010		1	0.999998	0.999994	0.999988	0.999987	0.999983	0.999983
2011			1	0.999996	0.999989	0.999989	0.999982	0.999982
2012				1	0.999997	0.999996	0.999991	0.999991
2013					1	0.999999	0.999995	0.999995
2014						1	0.999995	0.999995
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for CDT								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999602	0.999589	0.999592	0.999571	0.999556	0.999585	0.999586
2010		1	0.999992	0.999993	0.99999	0.999988	0.999988	0.999988
2011			1	0.99999	0.999983	0.99998	0.99998	0.99998
2012				1	0.999993	0.999991	0.999989	0.999987
2013					1	0.999997	0.999996	0.999995
2014						1	0.999993	0.999993
2014G2							1	0.999999
2015G2								1

Correlation between Question Responses and Years for WWW								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999992	0.999988	0.999987	0.999983	0.99998	0.99998	0.99998
2010		1	0.999997	0.999996	0.99999	0.999986	0.999986	0.999985
2011			1	0.999993	0.999987	0.999983	0.99998	0.999978
2012				1	0.999996	0.999994	0.999991	0.99999
2013					1	0.999998	0.999995	0.999994
2014						1	0.999995	0.999995
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for 2LT								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999998	0.999997	0.999994	0.99999	0.999988	0.999987	0.999987
2010		1	0.999999	0.999996	0.999992	0.99999	0.999988	0.999988
2011			1	0.999997	0.999992	0.999991	0.999987	0.999987
2012				1	0.999998	0.999997	0.999995	0.999994
2013					1	0.999999	0.999996	0.999996
2014						1	0.999996	0.999996
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for 1LT								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999999	0.999996	0.999995	0.99999	0.99999	0.999987	0.999986
2010		1	0.999998	0.999996	0.999991	0.999991	0.999988	0.999987
2011			1	0.999997	0.999992	0.999992	0.999987	0.999986
2012				1	0.999998	0.999998	0.999994	0.999993
2013					1	1	0.999996	0.999996
2014						1	0.999996	0.999996
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for CPT								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999999	0.999996	0.999995	0.999989	0.999989	0.999987	0.999986
2010		1	0.999998	0.999996	0.99999	0.99999	0.999987	0.999986
2011			1	0.999997	0.999992	0.999992	0.999987	0.999986
2012				1	0.999998	0.999998	0.999994	0.999993
2013					1	1	0.999996	0.999996
2014						1	0.999996	0.999996
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for MAJ								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999999	0.999996	0.999995	0.999989	0.999989	0.999986	0.999985
2010		1	0.999998	0.999996	0.999991	0.999991	0.999987	0.999987
2011			1	0.999998	0.999994	0.999993	0.999988	0.999988
2012				1	0.999998	0.999998	0.999994	0.999993
2013					1	1	0.999996	0.999996
2014						1	0.999996	0.999996
2014G2							1	1
2015G2								1

Correlation between Question Responses and Years for OOO								
	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2009	1	0.999999	0.999996	0.999993	0.999988	0.999988	0.999986	0.999985
2010		1	0.999998	0.999997	0.999993	0.999992	0.99999	0.999989
2011			1	0.999998	0.999994	0.999994	0.999989	0.999989
2012				1	0.999998	0.999998	0.999994	0.999993
2013					1	1	0.999996	0.999996
2014						1	0.999996	0.999996
2014G2							1	1
2015G2								1

APPENDIX V CORRELATION BETWEEN YEARS FOR SAME DIFFERENT RANKS

	Correlation between Question Responses and Years between PV1 and PV2								
	PV2	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.980654	0.98387	0.973108	0.954896	0.933961	0.926677	0.913474	0.910996
	2010		0.990035	0.980626	0.970007	0.951087	0.931998	0.90012	0.896174
	2011			0.981069	0.97083	0.9509	0.929875	0.891515	0.886519
	2012				0.978082	0.954761	0.948691	0.912542	0.910486
	2013					0.799396	0.815452	0.78931	0.79335
	2014						0.988077	0.955683	0.957428
	2014G2							0.985986	0.987382
	2015G2								0.985028

	Correlation between Question Responses and Years between PV1 and PFC								
	PFC	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.975899	0.972123	0.954168	0.942493	0.906775	0.900666	0.890281	0.890965
	2010		0.969405	0.953383	0.937541	0.902227	0.896477	0.871447	0.871694
	2011			0.956154	0.94025	0.904626	0.89902	0.866827	0.865223
	2012				0.955198	0.921615	0.920116	0.888527	0.890044
	2013					0.799042	0.801746	0.768431	0.776448
	2014						0.953172	0.926215	0.931919
	2014G2							0.958519	0.966454
	2015G2								0.963318

	Correlation between Question Responses and Years between PV1 and SPC								
	SPC	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.924443	0.926883	0.904317	0.898352	0.864742	0.86695	0.853194	0.853777
	2010		0.915152	0.896454	0.89038	0.85662	0.862068	0.832287	0.833305
	2011			0.902944	0.897356	0.8635	0.868923	0.831197	0.83118
	2012				0.909934	0.877925	0.886156	0.850505	0.852643
	2013					0.754594	0.762032	0.73051	0.730991
	2014						0.911988	0.883279	0.889347
	2014G2							0.917306	0.923912
	2015G2								0.922188

	Correlation between Question Responses and Years between PV1 and CPL								
	CPL	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.922033	0.889859	0.856618	0.842341	0.815667	0.828996	0.829088	0.812602
	2010		0.877429	0.854345	0.829644	0.809341	0.819954	0.809733	0.794993
	2011			0.858427	0.836029	0.818474	0.826226	0.808728	0.794495
	2012				0.849507	0.832159	0.847328	0.826083	0.81162
	2013					0.732031	0.753587	0.707797	0.687235
	2014						0.869779	0.860614	0.848237
	2014G2							0.88896	0.876981
	2015G2								0.879021

	SGT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.898063	0.895086	0.868683	0.869147	0.828325	0.828414	0.819845	0.821375
	2010		0.884079	0.863501	0.864771	0.823595	0.827909	0.803569	0.806626
	2011			0.869509	0.871551	0.83075	0.835452	0.80267	0.80534
	2012				0.883509	0.844662	0.851478	0.820951	0.824882
	2013					0.72088	0.722334	0.700396	0.699499
	2014						0.876497	0.854735	0.862293
	2014G2							0.886212	0.894151
	2015G2								0.89435

	SSG	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.885794	0.882467	0.855225	0.845336	0.80475	0.806915	0.795641	0.792855
	2010		0.87705	0.856191	0.846652	0.806346	0.810247	0.786539	0.785569
	2011			0.861258	0.853316	0.813854	0.817249	0.786037	0.78476
	2012				0.86747	0.827999	0.833429	0.804035	0.803632
	2013					0.705432	0.702461	0.682024	0.676862
	2014						0.858321	0.836937	0.838713
	2014G2							0.867766	0.869608
	2015G2								0.870138

	SFC	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.853723	0.856007	0.833115	0.822346	0.781105	0.784154	0.76904	0.767239
	2010		0.859534	0.843673	0.83103	0.789151	0.792556	0.766759	0.766081
	2011			0.848618	0.837496	0.797016	0.800987	0.766608	0.765611
	2012				0.851083	0.810599	0.815865	0.784709	0.783904
	2013					0.686434	0.691803	0.662648	0.656572
	2014						0.843398	0.820511	0.823717
	2014G2							0.84996	0.853348
	2015G2								0.853835

	EEE	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.831703	0.840018	0.825437	0.805936	0.770545	0.771462	0.754404	0.74732
	2010		0.850224	0.839489	0.816989	0.786555	0.786511	0.758865	0.753735
	2011			0.840524	0.818806	0.791175	0.791796	0.754549	0.749968
	2012				0.837635	0.808443	0.809212	0.775987	0.771265
	2013					0.690277	0.684659	0.657665	0.643091
	2014						0.843166	0.820812	0.817132
	2014G2							0.848119	0.844942
	2015G2								0.845765

	WO1	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.849475	0.874694	0.875532	0.868527	0.802046	0.797438	0.793637	0.79669
	2010		0.860724	0.863667	0.855892	0.800084	0.788134	0.778283	0.778407
	2011			0.862456	0.859243	0.805221	0.79274	0.774883	0.776275
	2012				0.878145	0.822338	0.811455	0.797009	0.798847
	2013					0.69512	0.70985	0.685817	0.690494
	2014						0.840232	0.826043	0.833239
	2014G2							0.855464	0.863416
	2015G2								0.86323

	CW2	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.832624	0.845144	0.835712	0.809013	0.78962	0.795435	0.772475	0.776913
	2010		0.8343	0.829508	0.799966	0.781947	0.794311	0.75947	0.763531
	2011			0.836172	0.80635	0.789727	0.802626	0.760176	0.763382
	2012				0.819549	0.805334	0.817585	0.77833	0.783154
	2013					0.704997	0.704159	0.670477	0.671378
	2014						0.835865	0.810134	0.817342
	2014G2							0.837342	0.845555
	2015G2								0.845274

	CW3	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.82539	0.817011	0.79732	0.754	0.766915	0.752058	0.754639	0.753684
	2010		0.815775	0.802752	0.754107	0.768198	0.762203	0.746273	0.747542
	2011			0.808444	0.760566	0.775771	0.770716	0.7459	0.74786
	2012				0.776732	0.789468	0.790317	0.765755	0.767651
	2013					0.68798	0.674995	0.667649	0.660246
	2014						0.814584	0.799122	0.801358
	2014G2							0.825756	0.824959
	2015G2								0.824625

	WWW	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.722542	0.804929	0.785856	0.807366	0.751713	0.741027	0.741925	0.748654
	2010		0.807558	0.787887	0.811487	0.759995	0.74617	0.74053	0.748767
	2011			0.790157	0.813037	0.766492	0.753006	0.739058	0.745915
	2012				0.83335	0.783924	0.770896	0.761318	0.767737
	2013					0.673771	0.6706	0.663832	0.652247
	2014						0.811886	0.791239	0.802536
	2014G2							0.816324	0.829778
	2015G2								0.828598

	CDT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.423602	0.948617	0.947428	0.91322	0.88548	0.878116	0.874996	0.879882
	2010		0.922363	0.916171	0.898266	0.865921	0.871504	0.847259	0.847247
	2011			0.908072	0.896577	0.86612	0.871724	0.839367	0.83749
	2012				0.922295	0.891724	0.898913	0.871561	0.869404
	2013					0.831326	0.836098	0.810688	0.813241
	2014						0.94992	0.917348	0.919783
	2014G2							0.948917	0.950886
	2015G2								0.944918

	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.923564	0.935845	0.931869	0.918251	0.884638	0.874444	0.87019	0.869365
	2010		0.90887	0.909474	0.898294	0.864161	0.863667	0.844243	0.843174
	2011			0.910711	0.899379	0.864994	0.867889	0.83894	0.837559
	2012				0.919503	0.888401	0.890109	0.865838	0.864896
	2013					0.824143	0.814573	0.800413	0.796318
	2014						0.925955	0.906246	0.906787
	2014G2							0.936036	0.936182
	2015G2								0.930699

	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.887097	0.893013	0.888266	0.884322	0.843115	0.843904	0.833727	0.833273
	2010		0.867825	0.875986	0.865469	0.827579	0.828851	0.80729	0.807796
	2011			0.88164	0.869145	0.83289	0.835268	0.805931	0.805735
	2012				0.887112	0.849057	0.853628	0.826218	0.82813
	2013					0.765946	0.773284	0.75025	0.750277
	2014						0.88051	0.859809	0.864206
	2014G2							0.889046	0.894766
	2015G2								0.891735

	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.866153	0.862113	0.855501	0.841659	0.807722	0.80088	0.800571	0.796808
	2010		0.843359	0.841027	0.828127	0.797154	0.793088	0.780958	0.778586
	2011			0.846714	0.834188	0.803582	0.799716	0.779784	0.777482
	2012				0.84653	0.817998	0.815098	0.798012	0.796109
	2013					0.719682	0.716413	0.706162	0.696393
	2014						0.8479	0.834275	0.83551
	2014G2							0.862991	0.864702
	2015G2								0.864586

	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.804831	0.825091	0.825804	0.797447	0.777766	0.767768	0.768431	0.768151
	2010		0.819311	0.820787	0.794974	0.777821	0.768353	0.75801	0.76005
	2011			0.825373	0.800509	0.785002	0.776588	0.75694	0.759371
	2012				0.813979	0.798885	0.791197	0.774844	0.777149
	2013					0.687574	0.686935	0.67631	0.674912
	2014						0.822103	0.811762	0.815926
	2014G2							0.83987	0.843852
	2015G2								0.8439

	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV1	2009	0.782872	0.801308	0.795046	0.778752	0.757674	0.76409	0.747464	0.742584
	2010		0.805942	0.800615	0.78672	0.768645	0.7723	0.746591	0.742054
	2011			0.802759	0.792154	0.773827	0.777166	0.744329	0.739676
	2012				0.805435	0.788697	0.794731	0.764272	0.75978
	2013					0.677203	0.681945	0.673761	0.663394
	2014						0.829979	0.803336	0.801665
	2014G2							0.827391	0.826912
	2015G2								0.826934

	PFC	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.993896	0.980737	0.965856	0.956696	0.921923	0.916614	0.903342	0.901915
	2010		0.993143	0.980236	0.966955	0.928635	0.925007	0.900202	0.898415
	2011			0.989903	0.97938	0.942544	0.939533	0.909034	0.90508
	2012				0.977937	0.974337	0.971434	0.943372	0.943044
	2013					0.967379	0.962164	0.937071	0.939478
	2014						0.983104	0.953954	0.958555
	2014G2							0.99005	0.994082
	2015G2								0.991728

	CPL	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.951253	0.919284	0.882992	0.878347	0.847786	0.857889	0.854947	0.837894
	2010		0.921484	0.895787	0.874638	0.850757	0.86101	0.846341	0.831317
	2011			0.912595	0.901808	0.877091	0.884965	0.863613	0.850018
	2012				0.887382	0.897287	0.907963	0.894367	0.883454
	2013					0.87953	0.888395	0.881173	0.869922
	2014						0.910589	0.89477	0.884215
	2014G2							0.936538	0.927946
	2015G2								0.915085

	SGT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.918654	0.91683	0.887857	0.888247	0.850207	0.848785	0.837479	0.83709
	2010		0.92544	0.903916	0.902688	0.859661	0.862667	0.837734	0.838766
	2011			0.923219	0.923701	0.883912	0.886156	0.854855	0.855125
	2012				0.91395	0.91055	0.915726	0.889257	0.894047
	2013					0.894179	0.8989	0.876928	0.882849
	2014						0.912231	0.888122	0.89556
	2014G2							0.930248	0.936815
	2015G2								0.925311

	SSG	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.900978	0.898747	0.870098	0.860027	0.819017	0.819887	0.80577	0.801972
	2010		0.912561	0.891462	0.880511	0.837514	0.840668	0.815507	0.813321
	2011			0.909717	0.901568	0.860052	0.862485	0.831277	0.828534
	2012				0.901591	0.892076	0.896964	0.871465	0.872251
	2013					0.877662	0.881681	0.861124	0.861993
	2014						0.890836	0.867214	0.869377
	2014G2							0.904598	0.906202
	2015G2								0.893853

	SFC	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.862742	0.862952	0.840181	0.825919	0.786534	0.791215	0.770729	0.768219
	2010		0.887074	0.871783	0.856773	0.813559	0.818827	0.789751	0.787833
	2011			0.886507	0.874604	0.834539	0.839308	0.803321	0.800867
	2012				0.884287	0.876503	0.879505	0.852043	0.853555
	2013					0.865191	0.867193	0.844318	0.846531
	2014						0.872504	0.847301	0.850467
	2014G2							0.87961	0.883085
	2015G2								0.871549

	EEE	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.841967	0.849183	0.830675	0.815486	0.778089	0.778963	0.75542	0.746702
	2010		0.872468	0.862026	0.840353	0.805742	0.80658	0.774922	0.768441
	2011			0.871392	0.854932	0.822563	0.823981	0.782846	0.776338
	2012				0.872169	0.871561	0.871203	0.840561	0.837116
	2013					0.86399	0.861885	0.837223	0.833837
	2014						0.867898	0.841223	0.838194
	2014G2							0.868938	0.866351
	2015G2								0.857282

	WO1	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.851223	0.879258	0.884954	0.878507	0.816274	0.808695	0.801848	0.803857
	2010		0.888342	0.892347	0.887466	0.827428	0.818239	0.802984	0.8051
	2011			0.903131	0.905103	0.848598	0.839801	0.815353	0.821198
	2012				0.898279	0.880892	0.871828	0.855218	0.862803
	2013					0.86843	0.859889	0.846043	0.853856
	2014						0.869217	0.853472	0.864355
	2014G2							0.881277	0.893458
	2015G2								0.883574

	CW2	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.849172	0.856389	0.847126	0.82025	0.803754	0.804311	0.781249	0.787115
	2010		0.868599	0.865307	0.835972	0.815071	0.824548	0.78838	0.792998
	2011			0.882865	0.853038	0.839164	0.847417	0.805385	0.809769
	2012				0.84626	0.871951	0.876048	0.845747	0.852276
	2013					0.858725	0.860998	0.835442	0.841547
	2014						0.867178	0.840618	0.84954
	2014G2							0.87085	0.880165
	2015G2								0.868533

	CW3	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.840677	0.825511	0.809052	0.766155	0.774174	0.762644	0.760292	0.762413
	2010		0.846499	0.834792	0.787263	0.795745	0.789255	0.772701	0.774615
	2011			0.85127	0.808612	0.816896	0.812833	0.787321	0.790785
	2012				0.808569	0.852645	0.850315	0.831866	0.836085
	2013					0.841149	0.835861	0.823587	0.825543
	2014						0.845386	0.827285	0.831664
	2014G2							0.853447	0.855283
	2015G2								0.843911

	WWW	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.717037	0.815119	0.789543	0.825916	0.759313	0.747357	0.744214	0.748675
	2010		0.83432	0.816138	0.843548	0.784717	0.767796	0.763311	0.767379
	2011			0.823458	0.857925	0.802014	0.784199	0.774796	0.775471
	2012				0.856591	0.840429	0.837741	0.821804	0.828236
	2013					0.829419	0.829815	0.813038	0.822764
	2014						0.837008	0.81783	0.826116
	2014G2							0.836738	0.847936
	2015G2								0.839173

	CDT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.453503	0.951858	0.934157	0.918226	0.886196	0.878765	0.880928	0.886485
	2010		0.952812	0.932378	0.922	0.887538	0.888462	0.87259	0.872848
	2011			0.92399	0.920339	0.892729	0.894827	0.873082	0.873769
	2012				0.927512	0.938432	0.944664	0.919665	0.918916
	2013					0.942057	0.949963	0.92064	0.920369
	2014						0.968662	0.94163	0.941813
	2014G2							0.96593	0.969333
	2015G2								0.969175

	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.940513	0.948593	0.939721	0.930535	0.897569	0.885084	0.883777	0.88342
	2010		0.942261	0.942027	0.928326	0.89315	0.891474	0.87342	0.872364
	2011			0.951163	0.939484	0.904026	0.905839	0.879749	0.878596
	2012				0.945151	0.938205	0.941802	0.916948	0.916791
	2013					0.936023	0.936927	0.915484	0.915667
	2014						0.952832	0.930871	0.932233
	2014G2							0.958727	0.958747
	2015G2								0.955475

	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.910042	0.915504	0.905541	0.902456	0.864149	0.869476	0.857221	0.856453
	2010		0.909343	0.914105	0.902156	0.862992	0.867535	0.844421	0.844494
	2011			0.929443	0.918361	0.882302	0.887504	0.85826	0.858121
	2012				0.920418	0.908956	0.911103	0.886803	0.889706
	2013					0.899845	0.899245	0.878865	0.882159
	2014						0.915101	0.891351	0.89701
	2014G2							0.927022	0.933256
	2015G2								0.92433

	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.879485	0.884865	0.87672	0.858888	0.82751	0.820334	0.816721	0.812519
	2010		0.881916	0.880663	0.863652	0.830113	0.825803	0.811891	0.808963
	2011			0.897708	0.881767	0.851496	0.847698	0.826334	0.823782
	2012				0.879634	0.880979	0.878716	0.86252	0.863477
	2013					0.871443	0.869545	0.856672	0.857277
	2014						0.87688	0.86212	0.86438
	2014G2							0.895491	0.898984
	2015G2								0.888329

	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.815475	0.839654	0.841893	0.809311	0.788243	0.778319	0.778351	0.778654
	2010		0.849751	0.854068	0.82405	0.803832	0.795847	0.78392	0.785157
	2011			0.871224	0.842019	0.824834	0.816964	0.798189	0.799749
	2012				0.848491	0.860833	0.853805	0.840037	0.843949
	2013					0.852857	0.845269	0.835346	0.839188
	2014						0.849432	0.837683	0.842286
	2014G2							0.866368	0.870908
	2015G2								0.860618

	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PV2	2009	0.791985	0.811444	0.809269	0.789213	0.76755	0.776203	0.754321	0.750182
	2010		0.828753	0.826745	0.810698	0.788407	0.794916	0.766626	0.761815
	2011			0.839644	0.827393	0.806427	0.812375	0.777901	0.773417
	2012				0.840441	0.849998	0.855624	0.825933	0.824075
	2013					0.843779	0.848273	0.823794	0.821775
	2014						0.854838	0.825297	0.824504
	2014G2							0.844684	0.846459
	2015G2								0.837732

	Correlation between Question Responses and Years between PFC and SPC								
	SPC	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.968356	0.969083	0.95136	0.94119	0.90366	0.903963	0.881871	0.878455
	2010		0.981153	0.967146	0.958327	0.919349	0.922654	0.893049	0.890641
	2011			0.983517	0.97413	0.933605	0.935369	0.899603	0.895571
	2012				0.982543	0.970855	0.974108	0.940091	0.938952
	2013					0.982885	0.98624	0.960086	0.961561
	2014						0.985267	0.957138	0.959907
	2014G2							0.98854	0.99108
	2015G2								0.984888

	Correlation between Question Responses and Years between PFC and CPL								
	CPL	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.972916	0.945291	0.911903	0.902477	0.872136	0.878237	0.866014	0.849685
	2010		0.953823	0.929745	0.911814	0.885743	0.893733	0.875449	0.861482
	2011			0.948082	0.935282	0.907411	0.912725	0.885638	0.872915
	2012				0.944668	0.942081	0.948845	0.924854	0.914115
	2013					0.952174	0.95838	0.944802	0.937051
	2014						0.956391	0.939358	0.931945
	2014G2							0.97072	0.965246
	2015G2								0.953745

	Correlation between Question Responses and Years between PFC and SGT								
	SGT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.942365	0.942828	0.918741	0.913757	0.871475	0.869178	0.850921	0.848354
	2010		0.955881	0.937404	0.934491	0.890365	0.891979	0.866353	0.865276
	2011			0.95633	0.951733	0.907984	0.907902	0.87508	0.872517
	2012				0.957287	0.943514	0.945201	0.914955	0.915388
	2013					0.955137	0.957403	0.93601	0.93931
	2014						0.9546	0.93136	0.935926
	2014G2							0.963759	0.967985
	2015G2								0.958712

	Correlation between Question Responses and Years between PFC and SSG								
	SSG	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.923158	0.923879	0.899797	0.886258	0.842087	0.841306	0.821138	0.815892
	2010		0.939252	0.921791	0.910657	0.866495	0.868373	0.842501	0.839372
	2011			0.939218	0.927134	0.882388	0.882639	0.850283	0.845866
	2012				0.937314	0.917796	0.919647	0.889656	0.887554
	2013					0.930173	0.932677	0.911947	0.911889
	2014						0.929645	0.907219	0.908324
	2014G2							0.937592	0.938395
	2015G2								0.928142

	Correlation between Question Responses and Years between PFC and SFC								
	SFC	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.885004	0.887092	0.867642	0.851758	0.808495	0.814222	0.786115	0.781488
	2010		0.909587	0.897522	0.882389	0.839077	0.84537	0.814081	0.811055
	2011			0.91062	0.896364	0.853545	0.858612	0.819471	0.815211
	2012				0.90768	0.891863	0.896905	0.861023	0.859607
	2013					0.908334	0.911859	0.886099	0.887398
	2014						0.90834	0.881926	0.884042
	2014G2							0.910226	0.912694
	2015G2								0.903657

	Correlation between Question Responses and Years between PFC and EEE								
	EEE	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.855035	0.866696	0.851791	0.833316	0.793466	0.794795	0.761944	0.752569
	2010		0.889289	0.881873	0.861491	0.825382	0.82707	0.791586	0.784651
	2011			0.886902	0.869042	0.833399	0.834868	0.788161	0.780742
	2012				0.886111	0.874874	0.876	0.833542	0.827979
	2013					0.89499	0.894704	0.86335	0.859658
	2014						0.893718	0.862008	0.859192
	2014G2							0.888879	0.886857
	2015G2								0.882464

	Correlation between Question Responses and Years between PFC and WO1								
	WO1	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.878474	0.902726	0.905106	0.90239	0.835189	0.831457	0.814235	0.817528
	2010		0.906009	0.910343	0.910094	0.850203	0.844073	0.823196	0.827442
	2011			0.916067	0.921674	0.862701	0.859103	0.825538	0.833533
	2012				0.927003	0.897443	0.893251	0.863403	0.875357
	2013					0.910496	0.907277	0.88416	0.899007
	2014						0.904003	0.882041	0.896883
	2014G2							0.908804	0.922564
	2015G2								0.914071

	Correlation between Question Responses and Years between PFC and CW2								
	CW2	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.877108	0.886548	0.880531	0.853379	0.829377	0.831087	0.800002	0.80377
	2010		0.895544	0.89653	0.868819	0.846061	0.85317	0.816961	0.821057
	2011			0.913104	0.88304	0.86349	0.86878	0.826182	0.828745
	2012				0.886684	0.900132	0.902097	0.865354	0.870488
	2013					0.914168	0.91047	0.886826	0.893916
	2014						0.907551	0.882466	0.890723
	2014G2							0.90752	0.91634
	2015G2								0.904693

	Correlation between Question Responses and Years between PFC and CW3								
	CW3	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.865366	0.856871	0.844433	0.800875	0.799488	0.787113	0.779561	0.780558
	2010		0.872406	0.863916	0.820289	0.823369	0.816233	0.799806	0.802178
	2011			0.876725	0.836968	0.837918	0.83072	0.805792	0.81
	2012				0.844263	0.872334	0.867524	0.845622	0.850771
	2013					0.884612	0.880421	0.867902	0.873637
	2014						0.879982	0.864746	0.870744
	2014G2							0.887663	0.890993
	2015G2								0.879192

	Correlation between Question Responses and Years between PFC and WWW								
	WWW	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.733757	0.840989	0.820673	0.850751	0.782738	0.764815	0.761714	0.761158
	2010		0.856277	0.839638	0.869912	0.808475	0.79079	0.786534	0.786846
	2011			0.843449	0.878579	0.817658	0.798816	0.788654	0.784733
	2012				0.885137	0.852608	0.843434	0.827048	0.826426
	2013					0.865456	0.866005	0.848258	0.851287
	2014						0.864372	0.846824	0.85057
	2014G2							0.865832	0.873006
	2015G2								0.865568

	Correlation between Question Responses and Years between PFC and CDT								
	CDT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.454829	0.963992	0.936214	0.928731	0.891328	0.880657	0.880546	0.882841
	2010		0.965823	0.927818	0.930427	0.894016	0.890272	0.881284	0.879987
	2011			0.911685	0.920081	0.88537	0.883956	0.86701	0.865724
	2012				0.933034	0.934509	0.935063	0.917627	0.915922
	2013					0.959026	0.960965	0.944764	0.943396
	2014						0.964126	0.947709	0.945821
	2014G2							0.96695	0.967606
	2015G2								0.972623

	Correlation between Question Responses and Years between PFC and 2LT								
	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.954552	0.96499	0.959969	0.944944	0.90744	0.898055	0.888936	0.887766
	2010		0.957694	0.959445	0.944423	0.907507	0.907968	0.888387	0.886837
	2011			0.961446	0.946183	0.906023	0.908223	0.881437	0.879149
	2012				0.966061	0.948985	0.952913	0.926002	0.92537
	2013					0.966425	0.970939	0.948832	0.949093
	2014						0.972365	0.949158	0.949678
	2014G2							0.969875	0.969787
	2015G2								0.968505

	Correlation between Question Responses and Years between PFC and 1LT								
	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.932216	0.942013	0.934658	0.92438	0.884177	0.890951	0.871274	0.869263
	2010		0.937952	0.943729	0.928297	0.890296	0.896301	0.872258	0.871501
	2011			0.956061	0.937462	0.90051	0.9072	0.875527	0.873808
	2012				0.955002	0.93863	0.945309	0.915967	0.916893
	2013					0.952182	0.957005	0.935355	0.938707
	2014						0.955004	0.932037	0.936685
	2014G2							0.95725	0.962403
	2015G2								0.953944

	Correlation between Question Responses and Years between PFC and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.90038	0.911784	0.90852	0.88587	0.849986	0.84299	0.832239	0.826769
	2010		0.910485	0.913071	0.893864	0.858902	0.854345	0.838744	0.835675
	2011			0.926616	0.905138	0.871701	0.866588	0.843107	0.840066
	2012				0.9176	0.90905	0.905372	0.883993	0.88353
	2013					0.923123	0.92048	0.905996	0.907978
	2014						0.916536	0.901585	0.904255
	2014G2							0.928237	0.932332
	2015G2								0.921409

	Correlation between Question Responses and Years between PFC and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.838818	0.865808	0.871455	0.836465	0.810852	0.802545	0.794301	0.793777
	2010		0.874072	0.882579	0.851491	0.829068	0.823013	0.80898	0.809846
	2011			0.894031	0.860917	0.839852	0.833506	0.812228	0.81322
	2012				0.876624	0.87786	0.872669	0.853816	0.856476
	2013					0.893265	0.888736	0.877371	0.881701
	2014						0.885625	0.873521	0.87849
	2014G2							0.898114	0.903049
	2015G2								0.892287

	Correlation between Question Responses and Years between PFC and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
PFC	2009	0.808817	0.833674	0.834229	0.814129	0.78537	0.793756	0.768082	0.762538
	2010		0.848064	0.850455	0.834896	0.808969	0.816535	0.786858	0.782181
	2011			0.857283	0.844183	0.816186	0.822768	0.786559	0.781952
	2012				0.85975	0.855757	0.864218	0.828828	0.826453
	2013					0.874438	0.882987	0.854239	0.854054
	2014						0.881424	0.851992	0.852106
	2014G2							0.87058	0.873264
	2015G2								0.865081

	Correlation between Question Responses and Years between SPC and CPL								
	CPL	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.994795	0.987489	0.968685	0.954755	0.918208	0.91083	0.891433	0.878855
	2010		0.987883	0.971444	0.948276	0.917016	0.912977	0.888238	0.875746
	2011			0.979155	0.962773	0.930237	0.925442	0.889099	0.878217
	2012				0.976831	0.972848	0.966804	0.936109	0.927461
	2013					0.988497	0.97972	0.961075	0.955478
	2014						0.97817	0.958495	0.953576
	2014G2							0.992461	0.989725
	2015G2								0.988484

	Correlation between Question Responses and Years between SPC and SGT								
	SGT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.989538	0.989262	0.979111	0.967006	0.918625	0.9139	0.884879	0.876841
	2010		0.988545	0.978357	0.966712	0.915853	0.914178	0.881441	0.874742
	2011			0.987935	0.976825	0.928105	0.925274	0.882706	0.875089
	2012				0.989659	0.972821	0.971423	0.93145	0.926532
	2013					0.989193	0.989001	0.956685	0.955061
	2014						0.987815	0.955134	0.955505
	2014G2							0.988876	0.989651
	2015G2								0.989869

	Correlation between Question Responses and Years between SPC and SSG								
	SSG	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.971117	0.975365	0.964424	0.947343	0.900006	0.895856	0.86753	0.85962
	2010		0.96999	0.960544	0.943305	0.894963	0.893217	0.861233	0.854918
	2011			0.970776	0.954919	0.907709	0.904864	0.863496	0.856536
	2012				0.973645	0.954218	0.952539	0.914068	0.909218
	2013					0.97061	0.970145	0.939604	0.937138
	2014						0.96915	0.938234	0.937394
	2014G2							0.968593	0.967855
	2015G2								0.967831

	Correlation between Question Responses and Years between SPC and SFC								
	SFC	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.940027	0.945263	0.935953	0.917554	0.869895	0.875165	0.838248	0.830085
	2010		0.937749	0.931745	0.91235	0.864159	0.871138	0.83159	0.824809
	2011			0.94094	0.923957	0.878184	0.883256	0.833992	0.826491
	2012				0.945808	0.928589	0.932959	0.887748	0.883007
	2013					0.94876	0.952234	0.915804	0.914201
	2014						0.95138	0.916017	0.915702
	2014G2							0.943364	0.943858
	2015G2								0.945179

	Correlation between Question Responses and Years between SPC and EEE								
	EEE	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.88954	0.91202	0.908152	0.887645	0.842068	0.845569	0.798801	0.78829
	2010		0.905605	0.904797	0.881607	0.838211	0.841036	0.793348	0.784586
	2011			0.909144	0.89025	0.848667	0.850942	0.790799	0.781891
	2012				0.916245	0.901024	0.903043	0.847176	0.840138
	2013					0.925173	0.926125	0.879829	0.875324
	2014						0.928892	0.884687	0.881471
	2014G2							0.912558	0.91044
	2015G2								0.915772

	Correlation between Question Responses and Years between SPC and WO1								
	WO1	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.938733	0.941155	0.938239	0.937786	0.879797	0.879905	0.848222	0.851201
	2010		0.928229	0.928789	0.929721	0.86943	0.868285	0.834411	0.839076
	2011			0.929768	0.935612	0.879201	0.880439	0.832112	0.839595
	2012				0.948723	0.925749	0.926104	0.882228	0.893038
	2013					0.944786	0.944471	0.908279	0.921929
	2014						0.94296	0.909478	0.923163
	2014G2							0.936384	0.950009
	2015G2								0.950608

	Correlation between Question Responses and Years between SPC and CW2								
	CW2	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.931764	0.947358	0.94709	0.925822	0.887767	0.889644	0.854867	0.85437
	2010		0.934816	0.940172	0.915396	0.877703	0.883652	0.842818	0.843796
	2011			0.949036	0.924512	0.891361	0.89632	0.84667	0.845992
	2012				0.938582	0.93917	0.940578	0.898282	0.899529
	2013					0.958305	0.954314	0.924242	0.927816
	2014						0.951574	0.922056	0.926908
	2014G2							0.945676	0.951902
	2015G2								0.950603

	Correlation between Question Responses and Years between SPC and CW3								
	CW3	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.924031	0.924774	0.921006	0.8858	0.866062	0.851018	0.83705	0.837872
	2010		0.913003	0.910387	0.870376	0.856703	0.844284	0.825418	0.827314
	2011			0.917456	0.882864	0.869417	0.857975	0.827757	0.831308
	2012				0.901433	0.916297	0.906058	0.880055	0.884414
	2013					0.933396	0.923254	0.906621	0.911744
	2014						0.923408	0.905499	0.911624
	2014G2							0.926021	0.929562
	2015G2								0.928323

	Correlation between Question Responses and Years between SPC and WWW								
	WWW	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.789323	0.902723	0.893919	0.91026	0.841689	0.821254	0.817627	0.808222
	2010		0.888903	0.881754	0.902265	0.833065	0.811547	0.807513	0.799036
	2011			0.881169	0.906806	0.842059	0.820379	0.807165	0.79564
	2012				0.922349	0.888249	0.876591	0.857815	0.849673
	2013					0.906072	0.905055	0.882643	0.879032
	2014						0.906272	0.88456	0.882412
	2014G2							0.90108	0.903509
	2015G2								0.904837

	Correlation between Question Responses and Years between SPC and CDT								
	CDT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.438808	0.932791	0.882704	0.911828	0.853615	0.841108	0.844751	0.840549
	2010		0.945635	0.890572	0.914728	0.861525	0.850193	0.850309	0.844775
	2011			0.869136	0.902486	0.851227	0.844174	0.831386	0.826438
	2012				0.919587	0.903872	0.896958	0.884969	0.878889
	2013					0.935491	0.93047	0.919831	0.913363
	2014						0.940582	0.927111	0.920782
	2014G2							0.951103	0.947806
	2015G2								0.954209

	Correlation between Question Responses and Years between SPC and 2LT								
	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.946273	0.956247	0.959438	0.935812	0.891685	0.891689	0.871538	0.869576
	2010		0.954473	0.961211	0.936774	0.893033	0.897192	0.872401	0.870253
	2011			0.95557	0.933209	0.888547	0.894552	0.859125	0.856335
	2012				0.956505	0.935641	0.943562	0.908379	0.906923
	2013					0.960283	0.968712	0.938429	0.938417
	2014						0.972608	0.941734	0.942218
	2014G2							0.965918	0.965183
	2015G2								0.966423

	Correlation between Question Responses and Years between SPC and 1LT								
	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.961855	0.968903	0.972472	0.949655	0.910055	0.913003	0.886778	0.880782
	2010		0.962732	0.971697	0.945273	0.905881	0.911713	0.882589	0.878137
	2011			0.975414	0.947862	0.910589	0.915991	0.876907	0.871786
	2012				0.971352	0.95632	0.960183	0.924123	0.921053
	2013					0.976299	0.9792	0.950429	0.94997
	2014						0.977126	0.948068	0.949314
	2014G2							0.975033	0.977703
	2015G2								0.975343

	Correlation between Question Responses and Years between SPC and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.937371	0.95457	0.962328	0.9372	0.894718	0.889408	0.867366	0.861037
	2010		0.943074	0.952938	0.927145	0.884111	0.87939	0.856397	0.851534
	2011			0.957215	0.932483	0.892423	0.888105	0.854181	0.84959
	2012				0.953766	0.940128	0.936811	0.905508	0.903331
	2013					0.960568	0.958261	0.933966	0.934518
	2014						0.954495	0.930919	0.932859
	2014G2							0.957235	0.961057
	2015G2								0.958458

	Correlation between Question Responses and Years between SPC and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SPC	2009	0.892672	0.919909	0.933176	0.900455	0.866423	0.861528	0.841285	0.838981
	2010		0.905714	0.919811	0.886288	0.854597	0.851351	0.828919	0.827707
	2011			0.92569	0.89261	0.863838	0.860434	0.828126	0.82701
	2012				0.91874	0.913658	0.910757	0.88125	0.881831
	2013					0.934675	0.932437	0.910462	0.912982
	2014						0.929945	0.908749	0.912121
	2014G2							0.931519	0.935441
	2015G2								0.933522

	Correlation between Question Responses and Years between CPL and SGT								
	SGT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.982028	0.98516	0.9727	0.956765	0.90288	0.897933	0.87019	0.861559
	2010		0.992245	0.986928	0.966845	0.908839	0.902101	0.870801	0.860238
	2011			0.988559	0.971264	0.916259	0.910527	0.867197	0.856195
	2012				0.980916	0.967253	0.960932	0.930696	0.923608
	2013					0.99095	0.987316	0.950992	0.945376
	2014						0.979366	0.954915	0.951396
	2014G2							0.994511	0.993612
	2015G2								0.993614

	Correlation between Question Responses and Years between CPL and SSG								
	SSG	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.961727	0.966987	0.954464	0.932375	0.880075	0.876476	0.848422	0.840061
	2010		0.976077	0.969981	0.945265	0.891246	0.884839	0.854448	0.845994
	2011			0.977752	0.955816	0.905407	0.899178	0.858213	0.84936
	2012				0.969963	0.949118	0.942953	0.914959	0.908524
	2013					0.976796	0.971787	0.938696	0.933542
	2014						0.964807	0.942528	0.938801
	2014G2							0.978332	0.977052
	2015G2								0.978011

	Correlation between Question Responses and Years between CPL and SFC								
	SFC	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.926792	0.931338	0.922431	0.898534	0.846486	0.852375	0.81538	0.806677
	2010		0.943775	0.941107	0.914131	0.85971	0.863624	0.824589	0.815453
	2011			0.954536	0.930993	0.878497	0.880498	0.832306	0.821895
	2012				0.938472	0.922941	0.924004	0.88707	0.880712
	2013					0.953942	0.955876	0.915252	0.910427
	2014						0.949573	0.922173	0.918575
	2014G2							0.954829	0.95447
	2015G2								0.955768

	Correlation between Question Responses and Years between CPL and EEE								
	EEE	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.879563	0.900127	0.896086	0.871183	0.820991	0.823339	0.777555	0.766363
	2010		0.911585	0.912949	0.885486	0.8329	0.834416	0.785795	0.774037
	2011			0.925495	0.903152	0.851	0.851871	0.792135	0.779087
	2012				0.917378	0.895573	0.898091	0.847052	0.83821
	2013					0.925739	0.927051	0.872443	0.86576
	2014						0.932125	0.893236	0.885626
	2014G2							0.92639	0.923004
	2015G2								0.92457

	Correlation between Question Responses and Years between CPL and WO1								
	WO1	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.921861	0.92811	0.929483	0.923454	0.858916	0.859107	0.82628	0.829362
	2010		0.922875	0.925886	0.92043	0.858047	0.86031	0.82106	0.823077
	2011			0.92957	0.922607	0.869868	0.87414	0.824048	0.826324
	2012				0.935004	0.921153	0.923936	0.883168	0.893938
	2013					0.949122	0.950999	0.908635	0.920919
	2014						0.940337	0.903218	0.918268
	2014G2							0.945059	0.956197
	2015G2								0.956524

	Correlation between Question Responses and Years between CPL and CW2								
	CW2	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.917781	0.933401	0.934308	0.90877	0.866235	0.867246	0.831539	0.83099
	2010		0.939905	0.94296	0.921858	0.87245	0.875382	0.836202	0.834124
	2011			0.952438	0.933931	0.885481	0.891961	0.842855	0.838928
	2012				0.93569	0.938414	0.932052	0.902306	0.901506
	2013					0.968035	0.962402	0.92976	0.93081
	2014						0.946578	0.925028	0.925217
	2014G2							0.95737	0.962634
	2015G2								0.962779

	Correlation between Question Responses and Years between CPL and CW3								
	CW3	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.910662	0.909511	0.905378	0.864857	0.841857	0.826896	0.813301	0.814028
	2010		0.920004	0.917848	0.879001	0.853227	0.837286	0.81923	0.8208
	2011			0.931111	0.899031	0.873315	0.859715	0.82846	0.830651
	2012				0.905056	0.908958	0.898863	0.881054	0.886639
	2013					0.944017	0.932578	0.912332	0.917191
	2014						0.926062	0.911224	0.91566
	2014G2							0.938759	0.943307
	2015G2								0.943034

	Correlation between Question Responses and Years between CPL and WWW								
	WWW	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.76677	0.887339	0.877804	0.894531	0.817033	0.793898	0.793044	0.783401
	2010		0.895833	0.888818	0.899679	0.824638	0.801085	0.798972	0.787339
	2011			0.900902	0.909504	0.843314	0.81559	0.810387	0.794534
	2012				0.912015	0.879506	0.872911	0.854663	0.843424
	2013					0.911824	0.910184	0.886325	0.876793
	2014						0.901871	0.888662	0.882898
	2014G2							0.913068	0.914091
	2015G2								0.91225

	Correlation between Question Responses and Years between CPL and CDT								
	CDT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.456813	0.937445	0.885831	0.90974	0.845792	0.832018	0.837386	0.834671
	2010		0.915653	0.855355	0.888695	0.818024	0.808877	0.809146	0.80547
	2011			0.829995	0.879434	0.806836	0.799482	0.792502	0.787328
	2012				0.876832	0.858283	0.853884	0.847766	0.846221
	2013					0.901984	0.894035	0.887055	0.877865
	2014						0.907599	0.89849	0.895114
	2014G2							0.934448	0.932398
	2015G2								0.923611

	Correlation between Question Responses and Years between CPL and 2LT								
	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.943819	0.954132	0.957147	0.930787	0.882482	0.880067	0.862948	0.859853
	2010		0.933155	0.940992	0.912321	0.862628	0.862982	0.840656	0.836725
	2011			0.928073	0.903337	0.854906	0.856129	0.827193	0.823087
	2012				0.927044	0.902748	0.908528	0.881605	0.880068
	2013					0.938547	0.94792	0.915434	0.91494
	2014						0.946922	0.920136	0.917024
	2014G2							0.954776	0.953519
	2015G2								0.944716

	Correlation between Question Responses and Years between CPL and 1LT								
	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.9541	0.964504	0.967068	0.939073	0.895334	0.900814	0.875136	0.869094
	2010		0.958664	0.970057	0.933617	0.8911	0.892235	0.864882	0.858031
	2011			0.967988	0.933092	0.892796	0.89072	0.856153	0.848782
	2012				0.953666	0.941323	0.942519	0.915069	0.910605
	2013					0.973063	0.974829	0.943156	0.939986
	2014						0.961642	0.936352	0.935359
	2014G2							0.974263	0.975764
	2015G2								0.970591

	Correlation between Question Responses and Years between CPL and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.924522	0.945626	0.952828	0.921439	0.874749	0.868471	0.848706	0.841474
	2010		0.944108	0.95701	0.92439	0.874994	0.869161	0.844575	0.837574
	2011			0.956624	0.927316	0.88173	0.875925	0.843502	0.836463
	2012				0.944973	0.935013	0.930567	0.904087	0.901484
	2013					0.965941	0.962225	0.93401	0.932509
	2014						0.946601	0.926449	0.925402
	2014G2							0.96363	0.96721
	2015G2								0.964304

	Correlation between Question Responses and Years between CPL and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.873414	0.90372	0.917079	0.877437	0.840881	0.835661	0.81797	0.815045
	2010		0.907684	0.926558	0.885816	0.845484	0.841516	0.819713	0.816872
	2011			0.932081	0.897605	0.858669	0.855003	0.824935	0.82181
	2012				0.915801	0.906836	0.903493	0.882561	0.882416
	2013					0.940904	0.939343	0.913146	0.914164
	2014						0.923175	0.908114	0.909052
	2014G2							0.940847	0.944449
	2015G2								0.94211

	Correlation between Question Responses and Years between CPL and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPL	2009	0.83263	0.86548	0.878703	0.853759	0.810759	0.816556	0.787729	0.78077
	2010		0.871812	0.890457	0.865075	0.818807	0.82198	0.791083	0.784321
	2011			0.903407	0.880157	0.835636	0.835984	0.800169	0.792735
	2012				0.896111	0.882194	0.885729	0.851056	0.849204
	2013					0.913799	0.917906	0.884813	0.883047
	2014						0.912448	0.885341	0.883747
	2014G2							0.912078	0.915616
	2015G2								0.913479

	Correlation between Question Responses and Years between SGT and SSG								
	SSG	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SGT	2009	0.992108	0.991463	0.983888	0.962221	0.910751	0.905679	0.879403	0.871671
	2010		0.993174	0.986762	0.966273	0.915912	0.912642	0.881527	0.874636
	2011			0.993733	0.97337	0.922959	0.918469	0.873696	0.866247
	2012				0.993629	0.972811	0.970373	0.930657	0.925495
	2013					0.993487	0.991415	0.958892	0.95564
	2014						0.994154	0.956914	0.954932
	2014G2							0.993157	0.99205
	2015G2								0.992487

	Correlation between Question Responses and Years between SGT and SFC								
	SFC	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SGT	2009	0.971885	0.972098	0.965439	0.942306	0.889241	0.890866	0.858257	0.849235
	2010		0.971108	0.966469	0.943809	0.892168	0.896009	0.859279	0.850985
	2011			0.974055	0.952599	0.901221	0.903229	0.852957	0.843901
	2012				0.975237	0.954961	0.956135	0.912579	0.906382
	2013					0.979065	0.979377	0.943257	0.93973
	2014						0.983286	0.943705	0.941233
	2014G2							0.977091	0.976146
	2015G2								0.977852

	Correlation between Question Responses and Years between SGT and EEE								
	EEE	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SGT	2009	0.926791	0.944676	0.943274	0.918104	0.866443	0.869095	0.825774	0.814324
	2010		0.944017	0.944545	0.920134	0.869959	0.872801	0.826038	0.815791
	2011			0.946684	0.924167	0.875013	0.877132	0.81421	0.803761
	2012				0.952538	0.931183	0.933238	0.877507	0.869228
	2013					0.957625	0.958523	0.910441	0.904309
	2014						0.965008	0.914497	0.909656
	2014G2							0.951316	0.947978
	2015G2								0.953057

	Correlation between Question Responses and Years between SGT and WO1								
	WO1	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SGT	2009	0.957875	0.952336	0.948016	0.943383	0.889763	0.889446	0.857727	0.85907
	2010		0.951349	0.949873	0.946517	0.893346	0.892561	0.857658	0.85959
	2011			0.946792	0.948075	0.895243	0.897211	0.845361	0.849552
	2012				0.960116	0.945059	0.946202	0.900145	0.90656
	2013					0.967971	0.968493	0.929248	0.938901
	2014						0.969545	0.9309	0.939941
	2014G2							0.961104	0.970814
	2015G2								0.972056

	Correlation between Question Responses and Years between SGT and CW2								
	CW2	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SGT	2009	0.950837	0.962946	0.960268	0.938808	0.896354	0.897905	0.867082	0.864507
	2010		0.964514	0.965504	0.945035	0.900079	0.905811	0.869219	0.867653
	2011			0.971458	0.950309	0.906862	0.912009	0.862821	0.859639
	2012				0.965675	0.957378	0.95926	0.919274	0.917869
	2013					0.98225	0.978154	0.949564	0.950008
	2014						0.981038	0.948926	0.950301
	2014G2							0.975208	0.978357
	2015G2								0.977905

	Correlation between Question Responses and Years between SGT and CW3								
	CW3	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SGT	2009	0.942661	0.947097	0.943278	0.910443	0.8808	0.868912	0.853754	0.854927
	2010		0.949318	0.946315	0.912584	0.886461	0.874759	0.856152	0.858157
	2011			0.951217	0.921511	0.893675	0.883516	0.849085	0.852258
	2012				0.940221	0.944309	0.93366	0.906697	0.910304
	2013					0.966279	0.95605	0.937753	0.94185
	2014						0.961543	0.938875	0.943591
	2014G2							0.961806	0.96439
	2015G2								0.963522

	Correlation between Question Responses and Years between SGT and WWW								
	WWW	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SGT	2009	0.82468	0.929815	0.919341	0.925599	0.86084	0.83587	0.839157	0.828709
	2010		0.929563	0.922041	0.931712	0.866074	0.840214	0.842124	0.83127
	2011			0.922314	0.931519	0.869712	0.844082	0.833284	0.819103
	2012				0.946575	0.918586	0.902572	0.888485	0.878634
	2013					0.939755	0.935154	0.916676	0.909937
	2014						0.941675	0.921182	0.916161
	2014G2							0.940208	0.940647
	2015G2								0.942251

	Correlation between Question Responses and Years between SGT and CDT								
	CDT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SGT	2009	0.413394	0.915392	0.858427	0.901288	0.831939	0.825017	0.824333	0.820507
	2010		0.924452	0.864673	0.905368	0.839372	0.830651	0.831632	0.82645
	2011			0.839526	0.889746	0.822383	0.819272	0.802523	0.796828
	2012				0.912578	0.882449	0.878271	0.864402	0.858056
	2013					0.911788	0.908024	0.896228	0.888618
	2014						0.915949	0.901751	0.892732
	2014G2							0.933316	0.929236
	2015G2								0.936342

	Correlation between Question Responses and Years between SGT and 2LT								
	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SGT	2009	0.936536	0.943646	0.947768	0.923379	0.874777	0.876885	0.85449	0.851424
	2010		0.947079	0.953665	0.927999	0.881062	0.886253	0.860948	0.858205
	2011			0.942237	0.915864	0.867919	0.875463	0.835603	0.832084
	2012				0.945111	0.921825	0.930681	0.8934	0.890929
	2013					0.946146	0.9559	0.922312	0.921154
	2014						0.961653	0.925309	0.924767
	2014G2							0.954768	0.95271
	2015G2								0.955511

	Correlation between Question Responses and Years between SGT and 1LT								
	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SGT	2009	0.961332	0.965359	0.974477	0.945385	0.9021	0.899484	0.875344	0.869444
	2010		0.969648	0.980371	0.950258	0.908882	0.909032	0.882099	0.876608
	2011			0.977887	0.944987	0.90418	0.90358	0.862531	0.856451
	2012				0.97185	0.955098	0.952889	0.917727	0.913523
	2013					0.978011	0.974927	0.945592	0.943491
	2014						0.976706	0.944241	0.943271
	2014G2							0.974153	0.975525
	2015G2								0.974874

	Correlation between Question Responses and Years between SGT and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SGT	2009	0.945045	0.959196	0.967655	0.940952	0.896066	0.891907	0.868864	0.862755
	2010		0.961834	0.971026	0.945901	0.900085	0.896717	0.871878	0.866556
	2011			0.969254	0.943571	0.899507	0.896614	0.856894	0.851578
	2012				0.96816	0.951028	0.949357	0.914982	0.912064
	2013					0.976201	0.975435	0.946657	0.946112
	2014						0.977217	0.946231	0.94659
	2014G2							0.974185	0.977321
	2015G2								0.976253

	Correlation between Question Responses and Years between SGT and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SGT	2009	0.91395	0.938155	0.951172	0.916716	0.877873	0.872841	0.85381	0.850608
	2010		0.938309	0.951544	0.918657	0.880752	0.877501	0.85578	0.852943
	2011			0.952049	0.918819	0.883061	0.879752	0.843297	0.840558
	2012				0.945955	0.935769	0.933327	0.902526	0.901209
	2013					0.961528	0.959811	0.935137	0.935672
	2014						0.964256	0.936923	0.93812
	2014G2							0.961011	0.963194
	2015G2								0.962234

	Correlation between Question Responses and Years between SGT and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SGT	2009	0.879624	0.909568	0.923648	0.900436	0.856114	0.857372	0.831331	0.82543
	2010		0.909904	0.924833	0.902597	0.859031	0.862139	0.833237	0.827398
	2011			0.923861	0.905171	0.860274	0.86187	0.820522	0.814526
	2012				0.933124	0.915105	0.916969	0.880023	0.875793
	2013					0.942028	0.944508	0.913286	0.911412
	2014						0.951837	0.918031	0.916363
	2014G2							0.936674	0.939462
	2015G2								0.940185

	Correlation between Question Responses and Years between SSG and SFC								
	SFC	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SSG	2009	0.991837	0.988778	0.98048	0.956229	0.901239	0.902092	0.872757	0.8646
	2010		0.991279	0.984385	0.962948	0.910914	0.913198	0.878854	0.870696
	2011			0.991473	0.972454	0.922761	0.923446	0.87616	0.867535
	2012				0.992078	0.975109	0.975485	0.931922	0.925904
	2013					0.994161	0.994061	0.954264	0.950106
	2014						0.995377	0.956708	0.953748
	2014G2							0.994353	0.992515
	2015G2								0.994781

	Correlation between Question Responses and Years between SSG and EEE								
	EEE	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SSG	2009	0.959644	0.971068	0.968329	0.940826	0.887976	0.89013	0.851331	0.840616
	2010		0.972886	0.971489	0.947096	0.896745	0.899436	0.855009	0.844966
	2011			0.972704	0.952573	0.904634	0.906609	0.846658	0.836909
	2012				0.975894	0.958157	0.960055	0.904325	0.896421
	2013					0.977883	0.978941	0.927085	0.920762
	2014						0.982746	0.932921	0.927998
	2014G2							0.973835	0.970229
	2015G2								0.975783

	Correlation between Question Responses and Years between SSG and WO1								
	WO1	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SSG	2009	0.971141	0.963841	0.956973	0.946521	0.898834	0.894695	0.869858	0.867799
	2010		0.96947	0.963386	0.956042	0.911658	0.90835	0.877578	0.875978
	2011			0.957475	0.957138	0.915645	0.915445	0.866702	0.868328
	2012				0.966244	0.962417	0.961791	0.917487	0.921604
	2013					0.978115	0.977105	0.936734	0.942355
	2014						0.976469	0.939086	0.944741
	2014G2							0.973081	0.978725
	2015G2								0.979303

	Correlation between Question Responses and Years between SSG and CW2								
	CW2	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SSG	2009	0.966668	0.971388	0.962819	0.942087	0.897063	0.903095	0.874871	0.871787
	2010		0.980061	0.975372	0.957665	0.911445	0.918686	0.885248	0.882677
	2011			0.980194	0.961753	0.920524	0.927623	0.881844	0.877569
	2012				0.975881	0.971705	0.973962	0.935543	0.933188
	2013					0.989993	0.989047	0.957332	0.955811
	2014						0.988838	0.957729	0.957279
	2014G2							0.988144	0.989052
	2015G2								0.989325

	Correlation between Question Responses and Years between SSG and CW3								
	CW3	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SSG	2009	0.957547	0.963931	0.957484	0.925158	0.890662	0.884981	0.867944	0.868802
	2010		0.971776	0.966226	0.936796	0.90607	0.898051	0.878389	0.879685
	2011			0.968685	0.945489	0.915239	0.909992	0.873822	0.877027
	2012				0.962406	0.9652	0.959402	0.929098	0.932093
	2013					0.984165	0.976385	0.952672	0.954947
	2014						0.978272	0.954198	0.957394
	2014G2							0.982033	0.982752
	2015G2								0.983331

	Correlation between Question Responses and Years between SSG and WWW								
	WWW	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SSG	2009	0.870161	0.952806	0.94147	0.939218	0.879583	0.851741	0.861326	0.853029
	2010		0.95928	0.950053	0.952191	0.893676	0.866468	0.871444	0.861816
	2011			0.945565	0.952755	0.899031	0.872277	0.8648	0.851769
	2012				0.963782	0.946568	0.931629	0.916984	0.907181
	2013					0.963225	0.956162	0.937627	0.930691
	2014						0.958572	0.941615	0.936451
	2014G2							0.966559	0.966355
	2015G2								0.968804

	Correlation between Question Responses and Years between SSG and CDT								
	CDT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SSG	2009	0.406284	0.906994	0.853202	0.904451	0.828172	0.827577	0.822913	0.817368
	2010		0.912663	0.857236	0.908816	0.836547	0.83239	0.829677	0.823096
	2011			0.831868	0.892271	0.821995	0.82259	0.803332	0.796769
	2012				0.909621	0.878854	0.878305	0.859826	0.851479
	2013					0.899356	0.896755	0.880388	0.869704
	2014						0.902839	0.886347	0.875304
	2014G2							0.918154	0.911093
	2015G2								0.913418

	Correlation between Question Responses and Years between SSG and 2LT								
	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SSG	2009	0.929843	0.937309	0.938889	0.914425	0.866932	0.872352	0.848767	0.845615
	2010		0.943209	0.946407	0.922482	0.877343	0.884363	0.857182	0.854411
	2011			0.935	0.912159	0.866447	0.876472	0.834949	0.831313
	2012				0.936909	0.917947	0.929608	0.888064	0.885233
	2013					0.934135	0.946488	0.907006	0.905227
	2014						0.949263	0.909906	0.908685
	2014G2							0.940664	0.937783
	2015G2								0.937521

	Correlation between Question Responses and Years between SSG and 1LT								
	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SSG	2009	0.952982	0.956119	0.96552	0.936909	0.891514	0.886683	0.863561	0.859405
	2010		0.965385	0.974938	0.947754	0.905295	0.902272	0.875349	0.870566
	2011			0.972219	0.943794	0.903058	0.899733	0.859268	0.854144
	2012				0.96801	0.953229	0.948299	0.911105	0.907545
	2013					0.970273	0.963878	0.930248	0.92777
	2014						0.962327	0.929161	0.927995
	2014G2							0.960987	0.961916
	2015G2								0.960464

	Correlation between Question Responses and Years between SSG and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SSG	2009	0.950719	0.957584	0.96064	0.937676	0.89309	0.891123	0.868883	0.863573
	2010		0.966728	0.970951	0.950977	0.906723	0.905185	0.879387	0.874226
	2011			0.967861	0.948917	0.908205	0.907414	0.867103	0.862594
	2012				0.971196	0.959651	0.959875	0.922098	0.919486
	2013					0.978972	0.979891	0.945775	0.944419
	2014						0.978415	0.9453	0.945306
	2014G2							0.976614	0.979022
	2015G2								0.978235

	Correlation between Question Responses and Years between SSG and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SSG	2009	0.935959	0.952854	0.95807	0.928073	0.887495	0.882165	0.865107	0.861859
	2010		0.959478	0.966164	0.938647	0.899701	0.896181	0.874555	0.871138
	2011			0.964965	0.938053	0.903303	0.899792	0.864577	0.861402
	2012				0.963113	0.955806	0.953678	0.920481	0.918822
	2013					0.976817	0.97584	0.945703	0.945035
	2014						0.975928	0.946843	0.946782
	2014G2							0.975758	0.976559
	2015G2								0.976428

	Correlation between Question Responses and Years between SSG and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SSG	2009	0.911141	0.934684	0.943371	0.918965	0.875625	0.875153	0.853338	0.847602
	2010		0.940593	0.951438	0.929243	0.886347	0.887359	0.861521	0.85579
	2011			0.948897	0.931637	0.889514	0.889301	0.850773	0.845322
	2012				0.956958	0.942293	0.942365	0.906361	0.902453
	2013					0.963179	0.963436	0.931982	0.929168
	2014						0.966496	0.935194	0.93302
	2014G2							0.959671	0.961564
	2015G2								0.963111

	Correlation between Question Responses and Years between SFC and EEE								
	EEE	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SFC	2009	0.979901	0.9882	0.984556	0.957323	0.906407	0.908585	0.871146	0.861208
	2010		0.991111	0.988695	0.96723	0.922097	0.923985	0.882497	0.873787
	2011			0.990775	0.972071	0.92695	0.927945	0.868212	0.859491
	2012				0.988794	0.973751	0.974339	0.920578	0.91313
	2013					0.990823	0.991026	0.943999	0.939264
	2014						0.990735	0.939853	0.935288
	2014G2							0.988087	0.985697
	2015G2								0.989393

	Correlation between Question Responses and Years between SFC and WO1								
	WO1	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SFC	2009	0.974763	0.965142	0.95243	0.941181	0.905072	0.89994	0.875153	0.870343
	2010		0.968872	0.955278	0.949906	0.919797	0.915421	0.885223	0.881216
	2011			0.949924	0.947581	0.919212	0.91758	0.866928	0.864635
	2012				0.955326	0.961499	0.962357	0.915601	0.91709
	2013					0.975577	0.975392	0.935292	0.93978
	2014						0.973662	0.933218	0.937484
	2014G2							0.970443	0.973873
	2015G2								0.973112

	Correlation between Question Responses and Years between SFC and CW2								
	CW2	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SFC	2009	0.973874	0.973544	0.961298	0.944001	0.89851	0.906107	0.88052	0.876303
	2010		0.980333	0.972037	0.959077	0.916149	0.92497	0.894262	0.890861
	2011			0.974196	0.960391	0.919992	0.928646	0.882178	0.877533
	2012				0.973609	0.968025	0.972008	0.935102	0.931423
	2013					0.985338	0.984724	0.957519	0.955431
	2014						0.987162	0.955919	0.954171
	2014G2							0.987333	0.98731
	2015G2								0.986606

	Correlation between Question Responses and Years between SFC and CW3								
	CW3	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SFC	2009	0.965936	0.974495	0.965636	0.939463	0.902428	0.900503	0.880797	0.881574
	2010		0.980837	0.972862	0.951417	0.922308	0.918051	0.895519	0.896724
	2011			0.972885	0.955786	0.927404	0.925345	0.882454	0.885564
	2012				0.971249	0.973225	0.968973	0.936731	0.938534
	2013					0.987712	0.982313	0.958748	0.96147
	2014						0.984297	0.957774	0.959986
	2014G2							0.988261	0.988448
	2015G2								0.987349

	Correlation between Question Responses and Years between SFC and WWW								
	WWW	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SFC	2009	0.908231	0.971676	0.95648	0.951251	0.900333	0.870651	0.882739	0.874772
	2010		0.977347	0.963813	0.965355	0.91909	0.893236	0.898058	0.889992
	2011			0.958126	0.962095	0.919754	0.893896	0.883179	0.87207
	2012				0.969867	0.962165	0.947204	0.932871	0.924395
	2013					0.974075	0.969349	0.95072	0.945711
	2014						0.972133	0.950997	0.945933
	2014G2							0.980412	0.981644
	2015G2								0.982064

	Correlation between Question Responses and Years between SFC and CDT								
	CDT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SFC	2009	0.39645	0.879872	0.825758	0.890865	0.809557	0.813658	0.80544	0.799155
	2010		0.886269	0.832632	0.89799	0.82434	0.825438	0.817191	0.808666
	2011			0.811743	0.8853	0.811334	0.820467	0.789893	0.782398
	2012				0.897929	0.863797	0.868504	0.84246	0.832962
	2013					0.884426	0.888051	0.865524	0.854814
	2014						0.890308	0.869819	0.857317
	2014G2							0.901204	0.89203
	2015G2								0.89518

	Correlation between Question Responses and Years between SFC and 2LT								
	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SFC	2009	0.909955	0.916403	0.915185	0.893121	0.848919	0.857772	0.830479	0.826992
	2010		0.921151	0.920873	0.902007	0.862927	0.873923	0.841547	0.838721
	2011			0.911037	0.892912	0.852441	0.865599	0.81703	0.813544
	2012				0.91613	0.899891	0.914313	0.868092	0.864874
	2013					0.916469	0.931992	0.888869	0.886868
	2014						0.938411	0.894094	0.892474
	2014G2							0.920834	0.917712
	2015G2								0.917844

	Correlation between Question Responses and Years between SFC and 1LT								
	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SFC	2009	0.935449	0.937099	0.947605	0.920574	0.875639	0.867799	0.844041	0.840615
	2010		0.943526	0.954141	0.932481	0.892461	0.885424	0.857167	0.853425
	2011			0.952488	0.927658	0.887953	0.881066	0.836465	0.832658
	2012				0.950215	0.935424	0.926391	0.887373	0.884425
	2013					0.952237	0.942513	0.909318	0.908001
	2014						0.949779	0.914123	0.912671
	2014G2							0.938882	0.94042
	2015G2								0.939637

	Correlation between Question Responses and Years between SFC and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SFC	2009	0.946373	0.948086	0.946942	0.929979	0.887821	0.888432	0.864078	0.859571
	2010		0.954628	0.954475	0.944113	0.904707	0.905909	0.877182	0.873504
	2011			0.950256	0.939338	0.901544	0.903588	0.857562	0.854237
	2012				0.960055	0.950403	0.952825	0.912378	0.910348
	2013					0.968369	0.971542	0.936585	0.937026
	2014						0.976083	0.939279	0.939324
	2014G2							0.967148	0.970441
	2015G2								0.969617

	Correlation between Question Responses and Years between SFC and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SFC	2009	0.950344	0.961635	0.960765	0.93655	0.89594	0.891108	0.873359	0.869842
	2010		0.967403	0.967787	0.948602	0.913331	0.910346	0.886519	0.883159
	2011			0.964602	0.943468	0.911817	0.909251	0.868436	0.865082
	2012				0.966469	0.960795	0.959163	0.923438	0.92134
	2013					0.978034	0.977484	0.947321	0.946973
	2014						0.982302	0.949242	0.948944
	2014G2							0.977906	0.978392
	2015G2								0.97754

	Correlation between Question Responses and Years between SFC and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
SFC	2009	0.935289	0.955461	0.959576	0.936414	0.894651	0.891972	0.872727	0.867357
	2010		0.961132	0.966399	0.948886	0.910388	0.909624	0.884974	0.879933
	2011			0.961332	0.946457	0.908999	0.907245	0.865922	0.860689
	2012				0.968751	0.956191	0.954327	0.919806	0.915818
	2013					0.973388	0.972198	0.942217	0.940526
	2014						0.975764	0.943626	0.941425
	2014G2							0.97082	0.973076
	2015G2								0.973015

	Correlation between Question Responses and Years between EEE and WO1								
	WO1	2009	2010	2011	2012	2013	2014	2014G2	2015G2
EEE	2009	0.948756	0.949003	0.934695	0.91747	0.888314	0.878121	0.860738	0.849581
	2010		0.959545	0.946205	0.938814	0.916408	0.908226	0.881797	0.874349
	2011			0.944469	0.941899	0.917064	0.911909	0.871368	0.865611
	2012				0.946664	0.962766	0.959025	0.919567	0.915924
	2013					0.970951	0.965964	0.929151	0.930135
	2014						0.968243	0.93521	0.935771
	2014G2							0.95992	0.959164
	2015G2								0.956913

	Correlation between Question Responses and Years between EEE and CW2								
	CW2	2009	2010	2011	2012	2013	2014	2014G2	2015G2
EEE	2009	0.959686	0.951129	0.928151	0.91063	0.866206	0.875037	0.852959	0.850896
	2010		0.967563	0.953468	0.942302	0.902638	0.912015	0.883922	0.881625
	2011			0.960665	0.948322	0.909288	0.91906	0.879712	0.876012
	2012				0.960254	0.95859	0.962246	0.930087	0.92763
	2013					0.971668	0.971742	0.945308	0.944503
	2014						0.975354	0.949741	0.949301
	2014G2							0.969165	0.971226
	2015G2								0.968872

	Correlation between Question Responses and Years between EEE and CW3								
	CW3	2009	2010	2011	2012	2013	2014	2014G2	2015G2
EEE	2009	0.955849	0.959361	0.939878	0.913069	0.878542	0.884563	0.861246	0.863568
	2010		0.973516	0.960064	0.940765	0.914852	0.915908	0.89084	0.893293
	2011			0.963899	0.948795	0.922741	0.924662	0.886781	0.889599
	2012				0.963821	0.969411	0.96997	0.93684	0.940286
	2013					0.980422	0.981157	0.95311	0.956723
	2014						0.983907	0.957004	0.960591
	2014G2							0.977014	0.978655
	2015G2								0.97624

	Correlation between Question Responses and Years between EEE and WWW								
	WWW	2009	2010	2011	2012	2013	2014	2014G2	2015G2
EEE	2009	0.939166	0.973328	0.944696	0.943271	0.896006	0.86655	0.877428	0.875189
	2010		0.982212	0.958804	0.965979	0.924825	0.89945	0.902793	0.89853
	2011			0.960163	0.964395	0.92827	0.904632	0.896892	0.890104
	2012				0.972128	0.971025	0.957124	0.942087	0.936866
	2013					0.981434	0.976971	0.955755	0.954434
	2014						0.978851	0.959028	0.957956
	2014G2							0.981036	0.987468
	2015G2								0.986213

	Correlation between Question Responses and Years between EEE and CDT								
	CDT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
EEE	2009	0.418444	0.864017	0.818474	0.882192	0.799549	0.808911	0.797856	0.794333
	2010		0.876074	0.82478	0.893543	0.82091	0.827677	0.814745	0.80868
	2011			0.811942	0.885953	0.81324	0.826386	0.796438	0.790625
	2012				0.894594	0.86039	0.87065	0.842048	0.835935
	2013					0.881508	0.892549	0.862692	0.853917
	2014						0.890814	0.86624	0.856778
	2014G2							0.894346	0.888992
	2015G2								0.885971

	Correlation between Question Responses and Years between EEE and 2LT								
	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
EEE	2009	0.896111	0.901201	0.888807	0.870749	0.83333	0.838864	0.81398	0.810792
	2010		0.910686	0.904078	0.890729	0.856852	0.866832	0.834378	0.831548
	2011			0.901874	0.888043	0.851362	0.864123	0.819436	0.815603
	2012				0.9062	0.89558	0.907516	0.864372	0.861535
	2013					0.910494	0.926087	0.881452	0.87927
	2014						0.928852	0.885987	0.883998
	2014G2							0.907576	0.904351
	2015G2								0.90017

	Correlation between Question Responses and Years between EEE and 1LT								
	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
EEE	2009	0.909446	0.909536	0.912445	0.890402	0.843796	0.835609	0.812499	0.812135
	2010		0.926386	0.933555	0.916503	0.876999	0.868973	0.841047	0.839332
	2011			0.93706	0.91718	0.876609	0.868295	0.829041	0.826683
	2012				0.936891	0.923179	0.913091	0.876315	0.875345
	2013					0.936456	0.926478	0.891813	0.892697
	2014						0.930067	0.897216	0.897918
	2014G2							0.913932	0.918253
	2015G2								0.914048

	Correlation between Question Responses and Years between EEE and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
EEE	2009	0.933026	0.926864	0.910837	0.898821	0.859197	0.861991	0.838428	0.835302
	2010		0.942174	0.933483	0.928454	0.892914	0.895928	0.86686	0.864267
	2011			0.935574	0.929281	0.894107	0.897668	0.856655	0.853792
	2012				0.94716	0.942573	0.946904	0.907256	0.9064
	2013					0.95592	0.96121	0.924319	0.925731
	2014						0.964591	0.929803	0.931082
	2014G2							0.947985	0.953239
	2015G2								0.95007

	Correlation between Question Responses and Years between EEE and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
EEE	2009	0.952074	0.955986	0.941784	0.918476	0.877864	0.871655	0.856215	0.854051
	2010		0.966696	0.960326	0.942879	0.90962	0.905695	0.883578	0.880869
	2011			0.962233	0.943051	0.912763	0.909615	0.875091	0.871828
	2012				0.963628	0.960049	0.958049	0.925386	0.923364
	2013					0.974417	0.973389	0.943158	0.94338
	2014						0.976506	0.948062	0.948493
	2014G2							0.967808	0.969352
	2015G2								0.966057

	Correlation between Question Responses and Years between EEE and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
EEE	2009	0.958963	0.966316	0.95922	0.93022	0.894678	0.892128	0.872814	0.8681
	2010		0.973425	0.972401	0.952891	0.920118	0.919123	0.894172	0.890022
	2011			0.9714	0.954398	0.921972	0.919823	0.884057	0.879409
	2012				0.974907	0.96973	0.968176	0.932786	0.930117
	2013					0.983367	0.982866	0.95036	0.949533
	2014						0.984583	0.953804	0.953033
	2014G2							0.974246	0.978131
	2015G2								0.975654

	Correlation between Question Responses and Years between WO1 and CW2								
	CW2	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WO1	2009	0.977159	0.98229	0.974825	0.956623	0.912626	0.922227	0.890633	0.885008
	2010		0.987599	0.976403	0.95657	0.906015	0.915655	0.880577	0.876494
	2011			0.967166	0.945399	0.9025	0.911308	0.869343	0.8677
	2012				0.965414	0.953597	0.957909	0.915977	0.913081
	2013					0.988156	0.98762	0.961021	0.959988
	2014						0.983635	0.962553	0.960473
	2014G2							0.988696	0.989865
	2015G2								0.992243

	Correlation between Question Responses and Years between WO1 and CW3								
	CW3	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WO1	2009	0.972116	0.980596	0.973119	0.951251	0.91263	0.911258	0.890255	0.888191
	2010		0.978073	0.967735	0.93825	0.903791	0.898683	0.876684	0.87566
	2011			0.953403	0.922057	0.894062	0.890191	0.859947	0.862618
	2012				0.949819	0.940301	0.93863	0.907197	0.910061
	2013					0.982618	0.981746	0.956798	0.961272
	2014						0.976242	0.957942	0.961086
	2014G2							0.983741	0.984935
	2015G2								0.984601

	Correlation between Question Responses and Years between WO1 and WWW								
	WWW	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WO1	2009	0.900467	0.971857	0.963641	0.960212	0.908844	0.882633	0.888745	0.878126
	2010		0.971065	0.965809	0.955146	0.900651	0.87466	0.874733	0.865101
	2011			0.945645	0.940278	0.886684	0.866164	0.854561	0.846335
	2012				0.957179	0.936476	0.91475	0.90127	0.889399
	2013					0.977263	0.965464	0.950187	0.944577
	2014						0.967162	0.947488	0.939371
	2014G2							0.975146	0.974925
	2015G2								0.970376

	Correlation between Question Responses and Years between WO1 and CDT								
	CDT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WO1	2009	0.436148	0.879926	0.837973	0.892142	0.820232	0.808189	0.814676	0.802525
	2010		0.904659	0.877967	0.931672	0.847989	0.829245	0.836646	0.826293
	2011			0.880995	0.928836	0.853987	0.844424	0.837288	0.831211
	2012				0.93727	0.899342	0.888276	0.876205	0.869158
	2013					0.905247	0.898311	0.889593	0.880025
	2014						0.898165	0.887958	0.883438
	2014G2							0.928499	0.920371
	2015G2								0.927544

	Correlation between Question Responses and Years between WO1 and 2LT								
	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WO1	2009	0.92572	0.930901	0.929991	0.904663	0.862224	0.869929	0.843418	0.840473
	2010		0.955857	0.951566	0.922786	0.882785	0.88229	0.858083	0.85663
	2011			0.952498	0.926516	0.885561	0.88337	0.855523	0.854141
	2012				0.956767	0.934102	0.937664	0.900643	0.89759
	2013					0.940787	0.949979	0.915954	0.915111
	2014						0.946307	0.914534	0.913447
	2014G2							0.948959	0.947761
	2015G2								0.95222

	Correlation between Question Responses and Years between WO1 and 1LT								
	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WO1	2009	0.94516	0.949508	0.951243	0.936316	0.891376	0.88686	0.859349	0.853788
	2010		0.96181	0.95715	0.940106	0.894681	0.892348	0.863134	0.857536
	2011			0.956496	0.937502	0.892862	0.892224	0.857224	0.853178
	2012				0.973896	0.946358	0.946386	0.906934	0.902816
	2013					0.964931	0.96094	0.930218	0.928989
	2014						0.959504	0.930744	0.929073
	2014G2							0.958866	0.959931
	2015G2								0.966

	Correlation between Question Responses and Years between WO1 and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WO1	2009	0.962057	0.962414	0.962667	0.948615	0.907505	0.905805	0.881028	0.874317
	2010		0.971137	0.96298	0.948539	0.904729	0.902687	0.877357	0.87011
	2011			0.954119	0.939065	0.89816	0.896311	0.865371	0.859613
	2012				0.969432	0.950605	0.948799	0.913005	0.90758
	2013					0.980852	0.982383	0.951644	0.950829
	2014						0.980638	0.950666	0.949853
	2014G2							0.981448	0.982543
	2015G2								0.985217

	Correlation between Question Responses and Years between WO1 and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WO1	2009	0.959621	0.969155	0.970312	0.951498	0.912449	0.907304	0.886395	0.88141
	2010		0.971245	0.962664	0.946625	0.902644	0.897448	0.874387	0.86969
	2011			0.949954	0.930811	0.891597	0.885933	0.85743	0.854031
	2012				0.959201	0.942475	0.93714	0.906021	0.903282
	2013					0.982464	0.979785	0.954536	0.954203
	2014						0.975836	0.951351	0.950686
	2014G2							0.98213	0.982594
	2015G2								0.9819

	Correlation between Question Responses and Years between WO1 and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WO1	2009	0.933588	0.955685	0.963891	0.944613	0.90032	0.899736	0.880215	0.87271
	2010		0.957778	0.963634	0.93862	0.891821	0.892392	0.870801	0.863202
	2011			0.947303	0.921292	0.881356	0.882317	0.850777	0.845112
	2012				0.953732	0.930449	0.931918	0.89801	0.891798
	2013					0.977083	0.977964	0.950047	0.947979
	2014						0.970478	0.945694	0.942683
	2014G2							0.975132	0.976234
	2015G2								0.972174

	Correlation between Question Responses and Years between CW2 and CW3								
	CW3	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW2	2009	0.975877	0.986615	0.974924	0.957985	0.912992	0.910438	0.884842	0.884477
	2010		0.994793	0.985841	0.957988	0.917634	0.909688	0.881355	0.880373
	2011			0.983225	0.966932	0.938011	0.933161	0.890094	0.892098
	2012				0.983012	0.97092	0.95858	0.92285	0.920643
	2013					0.990739	0.983533	0.961485	0.963478
	2014						0.986066	0.954885	0.957345
	2014G2							0.995719	0.996414
	2015G2								0.995783

	Correlation between Question Responses and Years between CW2 and WWW								
	WWW	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW2	2009	0.911109	0.982666	0.968426	0.967507	0.911309	0.880406	0.885862	0.873228
	2010		0.985626	0.977913	0.967769	0.912551	0.882888	0.880002	0.86702
	2011			0.966945	0.971708	0.926089	0.90163	0.884722	0.868474
	2012				0.974361	0.957165	0.93687	0.913263	0.898673
	2013					0.975655	0.97094	0.948125	0.938593
	2014						0.9666	0.944468	0.935756
	2014G2							0.983977	0.981109
	2015G2								0.981344

	Correlation between Question Responses and Years between CW2 and CDT								
	CDT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW2	2009	0.457832	0.871732	0.829973	0.895615	0.815319	0.803501	0.807812	0.799393
	2010		0.885131	0.842329	0.904511	0.820179	0.80335	0.807472	0.79656
	2011			0.837571	0.911058	0.837682	0.824108	0.813607	0.801999
	2012				0.902785	0.853911	0.836141	0.824777	0.812583
	2013					0.900643	0.889229	0.880792	0.870627
	2014						0.887803	0.876531	0.862965
	2014G2							0.90885	0.900386
	2015G2								0.909517

	Correlation between Question Responses and Years between CW2 and 2LT								
	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW2	2009	0.928109	0.931029	0.922574	0.898939	0.860128	0.866131	0.836847	0.834873
	2010		0.942928	0.940805	0.910018	0.868619	0.872398	0.84068	0.838675
	2011			0.944064	0.921599	0.885143	0.891879	0.846602	0.843451
	2012				0.921732	0.90256	0.907361	0.862906	0.859557
	2013					0.940083	0.94874	0.911396	0.90906
	2014						0.948487	0.905662	0.904254
	2014G2							0.936598	0.934129
	2015G2								0.940745

	Correlation between Question Responses and Years between CW2 and 1LT								
	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW2	2009	0.951705	0.952941	0.945319	0.929803	0.888592	0.884557	0.85418	0.848761
	2010		0.969692	0.967462	0.943916	0.90067	0.89631	0.861953	0.854583
	2011			0.972789	0.95649	0.918998	0.917168	0.869889	0.862597
	2012				0.9636	0.945827	0.939973	0.893705	0.885332
	2013					0.975364	0.969242	0.936782	0.933365
	2014						0.967247	0.928619	0.925163
	2014G2							0.961344	0.960511
	2015G2								0.965157

	Correlation between Question Responses and Years between CW2 and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW2	2009	0.966602	0.969484	0.960351	0.946659	0.905933	0.906392	0.875681	0.868277
	2010		0.984126	0.979561	0.962588	0.913593	0.912613	0.878103	0.870287
	2011			0.980246	0.969146	0.930778	0.929353	0.883389	0.876639
	2012				0.984249	0.96249	0.961665	0.914444	0.906671
	2013					0.989386	0.989319	0.955784	0.953573
	2014						0.987493	0.948805	0.946424
	2014G2							0.986974	0.98817
	2015G2								0.990065

	Correlation between Question Responses and Years between CW2 and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW2	2009	0.973894	0.981194	0.973345	0.955783	0.912453	0.907004	0.881855	0.877026
	2010		0.986893	0.982644	0.961375	0.914966	0.912051	0.879431	0.874387
	2011			0.97903	0.962624	0.928193	0.925574	0.881251	0.87723
	2012				0.98296	0.962616	0.962294	0.91588	0.91078
	2013					0.986551	0.985793	0.955684	0.954716
	2014						0.986934	0.951441	0.950364
	2014G2							0.991108	0.990989
	2015G2								0.991234

	Correlation between Question Responses and Years between CW2 and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW2	2009	0.954431	0.970432	0.972908	0.951053	0.905082	0.902504	0.881292	0.873415
	2010		0.970985	0.976973	0.952771	0.902213	0.901786	0.874119	0.865609
	2011			0.970634	0.956301	0.912976	0.912333	0.872343	0.864613
	2012				0.974471	0.947175	0.946352	0.906099	0.897842
	2013					0.973773	0.974233	0.944021	0.941201
	2014						0.976134	0.94238	0.938362
	2014G2							0.980371	0.981186
	2015G2								0.980935

	Correlation between Question Responses and Years between CW3 and WWW								
	WWW	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW3	2009	0.921828	0.980368	0.961882	0.968003	0.92119	0.892064	0.901442	0.891929
	2010		0.993641	0.985876	0.968578	0.913819	0.880614	0.879547	0.866453
	2011			0.981122	0.968075	0.920209	0.886147	0.871433	0.855248
	2012				0.973445	0.964685	0.941546	0.92331	0.906561
	2013					0.98709	0.979087	0.954905	0.944871
	2014						0.976807	0.952528	0.943997
	2014G2							0.993544	0.990597
	2015G2								0.990693

	Correlation between Question Responses and Years between CW3 and CDT								
	CDT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW3	2009	0.4676	0.867043	0.821714	0.898582	0.819709	0.801083	0.819718	0.807038
	2010		0.858599	0.814427	0.880748	0.791452	0.778228	0.777691	0.765315
	2011			0.796487	0.877463	0.790324	0.780632	0.763629	0.748621
	2012				0.867077	0.817447	0.804444	0.789972	0.777482
	2013					0.876712	0.870793	0.854069	0.842272
	2014						0.868847	0.848783	0.835034
	2014G2							0.896997	0.88642
	2015G2								0.887353

	Correlation between Question Responses and Years between CW3 and 2LT								
	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW3	2009	0.926708	0.924895	0.916329	0.896963	0.866035	0.87123	0.849419	0.846863
	2010		0.919815	0.917333	0.883077	0.839568	0.84771	0.811198	0.808614
	2011			0.914271	0.882014	0.841004	0.851829	0.80076	0.79831
	2012				0.886245	0.867931	0.878929	0.829723	0.826506
	2013					0.91724	0.928207	0.883694	0.882166
	2014						0.924407	0.874576	0.87305
	2014G2							0.924474	0.921497
	2015G2								0.920845

	Correlation between Question Responses and Years between CW3 and 1LT								
	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW3	2009	0.949657	0.949443	0.941906	0.932911	0.895156	0.89073	0.867871	0.861848
	2010		0.950907	0.950259	0.921674	0.876517	0.871219	0.833686	0.826765
	2011			0.950886	0.924892	0.882507	0.880029	0.826611	0.818778
	2012				0.933903	0.918869	0.910335	0.863521	0.85613
	2013					0.956449	0.946883	0.908096	0.904332
	2014						0.936604	0.893383	0.89185
	2014G2							0.946857	0.94583
	2015G2								0.946457

	Correlation between Question Responses and Years between CW3 and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW3	2009	0.968428	0.968167	0.955378	0.950883	0.912891	0.912905	0.889523	0.883352
	2010		0.97229	0.966356	0.947526	0.896405	0.897035	0.85847	0.851132
	2011			0.968213	0.951576	0.904431	0.905888	0.852082	0.844099
	2012				0.963693	0.947502	0.949788	0.899078	0.892508
	2013					0.977477	0.98037	0.938324	0.936111
	2014						0.971113	0.925808	0.925156
	2014G2							0.980407	0.980753
	2015G2								0.980997

	Correlation between Question Responses and Years between CW3 and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW3	2009	0.974285	0.98064	0.969257	0.958934	0.919563	0.916924	0.89649	0.891991
	2010		0.986691	0.979185	0.956656	0.907433	0.904929	0.868918	0.863781
	2011			0.978971	0.960681	0.915599	0.91433	0.862453	0.85679
	2012				0.980038	0.961969	0.961527	0.914501	0.908905
	2013					0.988803	0.988949	0.950138	0.947909
	2014						0.982368	0.941392	0.940398
	2014G2							0.992639	0.991446
	2015G2								0.990706

	Correlation between Question Responses and Years between CW3 and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CW3	2009	0.954258	0.971594	0.968939	0.950888	0.913742	0.914053	0.895437	0.888994
	2010		0.977413	0.981305	0.954149	0.90153	0.900033	0.870842	0.862155
	2011			0.978039	0.95572	0.906917	0.90624	0.862115	0.852828
	2012				0.97808	0.955486	0.951221	0.913759	0.90557
	2013					0.983446	0.981784	0.948179	0.943848
	2014						0.982165	0.944444	0.941301
	2014G2							0.988605	0.988218
	2015G2								0.988243

	Correlation between Question Responses and Years between CDT and 2LT								
	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CDT	2009	0.502913	0.478957	0.438713	0.404695	0.390706	0.373734	0.401443	0.405613
	2010		0.976899	0.974787	0.970036	0.942018	0.937231	0.924298	0.921931
	2011			0.941272	0.924545	0.892565	0.876221	0.871591	0.870413
	2012				0.968154	0.956537	0.947552	0.921966	0.920439
	2013					0.986377	0.98225	0.961187	0.961344
	2014						0.970662	0.943103	0.94419
	2014G2							0.990192	0.990997
	2015G2								0.987662

	Correlation between Question Responses and Years between CDT and 1LT								
	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CDT	2009	0.482877	0.478053	0.407937	0.406948	0.373258	0.371752	0.386937	0.383693
	2010		0.945217	0.94109	0.940681	0.906011	0.911426	0.896362	0.89759
	2011			0.880638	0.88391	0.838978	0.841498	0.826145	0.825661
	2012				0.950407	0.925348	0.927233	0.894015	0.892796
	2013					0.94663	0.948961	0.926814	0.930538
	2014						0.930219	0.902154	0.908907
	2014G2							0.958814	0.964365
	2015G2								0.959857

	Correlation between Question Responses and Years between CDT and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CDT	2009	0.500465	0.487239	0.433378	0.404192	0.362725	0.362044	0.375061	0.365002
	2010		0.911165	0.90865	0.898473	0.871806	0.866619	0.860345	0.856847
	2011			0.852819	0.8413	0.802753	0.796939	0.791494	0.785789
	2012				0.922262	0.907127	0.90398	0.877777	0.872716
	2013					0.92011	0.917413	0.902355	0.90129
	2014						0.900972	0.880579	0.882049
	2014G2							0.937134	0.938594
	2015G2								0.931467

	Correlation between Question Responses and Years between CDT and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CDT	2009	0.479823	0.474904	0.421376	0.397153	0.35503	0.353978	0.369071	0.361247
	2010		0.872641	0.877974	0.85502	0.838711	0.833375	0.82767	0.827893
	2011			0.818708	0.794425	0.770654	0.763497	0.755072	0.754684
	2012				0.896848	0.88788	0.883584	0.854881	0.853212
	2013					0.894093	0.891627	0.874753	0.876812
	2014						0.87964	0.860458	0.863939
	2014G2							0.911327	0.91429
	2015G2								0.90547

	Correlation between Question Responses and Years between CDT and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CDT	2009	0.487613	0.452546	0.416348	0.373896	0.338588	0.351477	0.366151	0.356387
	2010		0.854176	0.850331	0.83953	0.820697	0.829895	0.811016	0.806398
	2011			0.799671	0.7785	0.75204	0.759262	0.741728	0.734082
	2012				0.88783	0.874701	0.879885	0.848809	0.841564
	2013					0.878977	0.888372	0.862778	0.860194
	2014						0.885282	0.855057	0.853732
	2014G2							0.89689	0.897259
	2015G2								0.888682

	Correlation between Question Responses and Years between WWW and 2LT								
	2LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WWW	2009	0.822396	0.814933	0.797447	0.779337	0.755524	0.770664	0.734785	0.733892
	2010		0.909351	0.900819	0.876166	0.839007	0.84651	0.81262	0.809737
	2011			0.895756	0.85532	0.812261	0.819612	0.767364	0.765116
	2012				0.907515	0.891003	0.901848	0.853391	0.851603
	2013					0.905329	0.918736	0.869494	0.867324
	2014						0.919859	0.876967	0.876201
	2014G2							0.907477	0.904558
	2015G2								0.910596

	Correlation between Question Responses and Years between WWW and 1LT								
	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WWW	2009	0.843558	0.835097	0.82634	0.814591	0.782191	0.771458	0.742305	0.739935
	2010		0.936668	0.933336	0.91304	0.870705	0.863882	0.829857	0.824104
	2011			0.926094	0.895592	0.845603	0.840752	0.783792	0.775974
	2012				0.946669	0.925225	0.921486	0.872818	0.869207
	2013					0.93802	0.930624	0.886958	0.884894
	2014						0.926655	0.891043	0.890074
	2014G2							0.923802	0.923964
	2015G2								0.925859

	Correlation between Question Responses and Years between WWW and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WWW	2009	0.902126	0.876952	0.844387	0.855628	0.817953	0.824348	0.793129	0.790424
	2010		0.962187	0.950026	0.939811	0.895427	0.89758	0.861964	0.855421
	2011			0.9458	0.925809	0.870937	0.873043	0.814529	0.805703
	2012				0.963726	0.945721	0.94823	0.898882	0.896024
	2013					0.963744	0.968327	0.922372	0.921248
	2014						0.964209	0.92556	0.927069
	2014G2							0.963137	0.964502
	2015G2								0.966144

	Correlation between Question Responses and Years between WWW and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WWW	2009	0.94939	0.932406	0.892884	0.898034	0.858928	0.854243	0.828718	0.826342
	2010		0.987123	0.975645	0.957965	0.913646	0.910695	0.87945	0.874467
	2011			0.961926	0.941257	0.888625	0.887225	0.829495	0.822856
	2012				0.97667	0.958397	0.955499	0.910424	0.908784
	2013					0.984197	0.984504	0.942487	0.941036
	2014						0.979291	0.94227	0.943013
	2014G2							0.984383	0.98327
	2015G2								0.984286

	Correlation between Question Responses and Years between WWW and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
WWW	2009	0.95933	0.95364	0.926641	0.913509	0.878985	0.875122	0.856522	0.849575
	2010		0.988167	0.986709	0.962762	0.91808	0.915772	0.890237	0.882249
	2011			0.972607	0.941611	0.884062	0.883134	0.836169	0.825673
	2012				0.980102	0.957497	0.958797	0.914554	0.909565
	2013					0.990589	0.991625	0.951952	0.948612
	2014						0.985221	0.949734	0.949316
	2014G2							0.990846	0.990757
	2015G2								0.99282

	Correlation between Question Responses and Years between 2LT and 1LT								
	1LT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2LT	2009	0.982188	0.981625	0.956695	0.955548	0.918316	0.919668	0.906969	0.901264
	2010		0.984026	0.970001	0.966383	0.928065	0.932212	0.909558	0.906809
	2011			0.979995	0.969178	0.929044	0.932804	0.899367	0.895725
	2012				0.986198	0.972604	0.973935	0.949202	0.94769
	2013					0.980974	0.981329	0.955957	0.956558
	2014						0.984437	0.958771	0.960583
	2014G2							0.985744	0.988169
	2015G2								0.987394

	Correlation between Question Responses and Years between 2LT and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2LT	2009	0.971504	0.970389	0.9543	0.941268	0.904076	0.898412	0.88985	0.880183
	2010		0.96708	0.958272	0.943987	0.90902	0.904372	0.887802	0.880812
	2011			0.96599	0.947785	0.909558	0.905079	0.87648	0.869083
	2012				0.958468	0.952409	0.948738	0.928326	0.923208
	2013					0.960982	0.958491	0.936658	0.933897
	2014						0.965192	0.943627	0.942817
	2014G2							0.967941	0.967193
	2015G2								0.966186

	Correlation between Question Responses and Years between 2LT and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2LT	2009	0.926116	0.941228	0.931972	0.909227	0.876988	0.870338	0.863914	0.860368
	2010		0.936299	0.935063	0.911881	0.882161	0.87643	0.860675	0.85913
	2011			0.938357	0.912307	0.882076	0.876841	0.848309	0.84629
	2012				0.92565	0.92453	0.919959	0.901146	0.90071
	2013					0.935346	0.931929	0.910854	0.912282
	2014						0.944616	0.923627	0.926023
	2014G2							0.94273	0.944708
	2015G2								0.943246

	Correlation between Question Responses and Years between 2LT and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
2LT	2009	0.908172	0.918036	0.907332	0.889063	0.854895	0.859899	0.848839	0.840271
	2010		0.913781	0.910479	0.893417	0.860948	0.867638	0.846342	0.839267
	2011			0.911049	0.893793	0.858059	0.863832	0.830649	0.822852
	2012				0.908883	0.904091	0.909358	0.883869	0.878322
	2013					0.917285	0.924347	0.896363	0.892541
	2014						0.936717	0.90995	0.907523
	2014G2							0.924522	0.923569
	2015G2								0.921833

	Correlation between Question Responses and Years between 1LT and CPT								
	CPT	2009	2010	2011	2012	2013	2014	2014G2	2015G2
1LT	2009	0.987081	0.990299	0.978718	0.965765	0.92501	0.920008	0.902053	0.892293
	2010		0.992897	0.987532	0.969406	0.927597	0.922857	0.899622	0.890943
	2011			0.991498	0.971143	0.931104	0.927078	0.888033	0.880991
	2012				0.988154	0.979348	0.975982	0.94312	0.937601
	2013					0.992233	0.989641	0.961103	0.958097
	2014						0.984626	0.955167	0.952176
	2014G2							0.988543	0.987415
	2015G2								0.987258

	Correlation between Question Responses and Years between 1LT and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
1LT	2009	0.949801	0.966341	0.96012	0.939823	0.902381	0.897411	0.88139	0.877529
	2010		0.965229	0.966179	0.941521	0.903356	0.899544	0.877407	0.874234
	2011			0.97258	0.944828	0.910483	0.906829	0.868871	0.866656
	2012				0.964777	0.958849	0.955572	0.923914	0.922742
	2013					0.971193	0.969241	0.941635	0.942546
	2014						0.96181	0.93251	0.933765
	2014G2							0.964716	0.966285
	2015G2								0.966085

	Correlation between Question Responses and Years between 1LT and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
1LT	2009	0.925702	0.938777	0.932804	0.916783	0.876846	0.878694	0.86175	0.853217
	2010		0.938173	0.93868	0.92055	0.878721	0.882537	0.858916	0.850724
	2011			0.945553	0.929364	0.888455	0.891245	0.85071	0.843429
	2012				0.948139	0.93686	0.940404	0.906107	0.900033
	2013					0.948728	0.952533	0.921918	0.918055
	2014						0.944703	0.911469	0.907673
	2014G2							0.939422	0.938724
	2015G2								0.939878

	Correlation between Question Responses and Years between CPT and MAJ								
	MAJ	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPT	2009	0.981816	0.986547	0.969283	0.956457	0.914922	0.909904	0.893306	0.888974
	2010		0.986242	0.979585	0.960161	0.917821	0.914285	0.889793	0.885786
	2011			0.985248	0.96164	0.922939	0.919822	0.877899	0.873737
	2012				0.987171	0.974535	0.972648	0.934997	0.932385
	2013					0.990373	0.988874	0.958613	0.958286
	2014						0.99218	0.960287	0.960119
	2014G2							0.99213	0.992274
	2015G2								0.993222

	Correlation between Question Responses and Years between CPT and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
CPT	2009	0.964067	0.968859	0.957947	0.939963	0.897835	0.897942	0.884481	0.875535
	2010		0.963768	0.962241	0.942537	0.897593	0.899277	0.877097	0.86841
	2011			0.961675	0.944169	0.899076	0.900251	0.860743	0.851733
	2012				0.972188	0.953662	0.9546	0.919921	0.912968
	2013					0.972835	0.974343	0.944481	0.940669
	2014						0.979087	0.948534	0.944801
	2014G2							0.975566	0.974819
	2015G2								0.976707

	Correlation between Question Responses and Years between MAJ and OOO								
	OOO	2009	2010	2011	2012	2013	2014	2014G2	2015G2
MAJ	2009	0.98854	0.991191	0.97699	0.96122	0.921069	0.918172	0.901187	0.892409
	2010		0.992264	0.983547	0.96788	0.927093	0.926023	0.904774	0.896678
	2011			0.987241	0.976178	0.938806	0.937355	0.898447	0.89029
	2012				0.992574	0.977005	0.975316	0.94197	0.935531
	2013					0.991771	0.991372	0.958672	0.954851
	2014						0.990736	0.957959	0.954326
	2014G2							0.993177	0.992486
	2015G2								0.992889

APPENDIX VI A NOTE ON STATISTICAL SIGNIFICANCE

It is common, in statistical analyses, to evaluate the results of a comparison using statistical significance. When comparing two sample averages, the statistical significance is measured by the probability that random sampling would produce a difference in averages as large as (or larger than) the difference observed in the actual samples, if in fact the two populations are truly equal. The ability to detect a difference between two populations depends on the size of the difference, if there is one; the variability of the individual measurements; and, importantly, on the sample sizes. Larger sample sizes, not surprisingly, make it possible to detect small differences between two populations.

Of course, our GAT scores are not really a sample – they constitute the entire population of interest. However, it is reasonable to proceed as if the scores are like a sample from a hypothetical population that includes not only the soldiers in the data, but also next year's GAT-takers and the ones in subsequent years as well. So in this sense a test of "statistical significance" is reasonable.

A bigger problem is this: in situations with very large data sets we almost see "statistical significance" for any comparisons, because the two populations being compared are not exactly equal. Huge samples make it possible to detect even the tiniest differences. However, in many cases these differences are not of any practical significance. For example, the average change in the composite "emotional" GAT score for deploying junior enlisted soldiers was –0.034 (that is, a decrease from before deployment to afterward), whereas for senior officers it was +0.046. This is a "statistically significant" different by any measure (even accounting for a possible difference in the variability of the scores in the two groups). On the other hand, it is not obvious that a difference of hundredths of points on a scale of 1 to 5 is useful in terms of setting policy and selecting courses of action. One sample-size-independent measure of difference is the effect size, which in its simplest form is computed by the expression (Avg (B) – Avg(A))/sd (A). (If the two SDs are identical, clearly either can be used; if they are quite different an adjustment can be made). Although the important of a particular magnitude of effect size is problem-dependent, as a general rule we can say that an effect size under 0.1 is unimportant, one of 0.5 is moderate, and an effect size of 0.8 is large. In the above example, the effect size associated with the difference between

average composite emotional scores of junior enlisted soldiers and senior officers is 0.13 – not particularly big, but suggestive.

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